

GenCore version 5.1.6
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OM protein - protein search, using SW model

Run on: June 3, 2005, 12:44:18 ; Search time 22 Seconds

Sequence: (without alignments) 386.818 Million cell updates/sec

Title: US-10-791-619-12

Perfect score: 625

Sequence: 1 EVOLVEGGGLVQPGGSLRL..... YCARGSHYFGHWHPAVWGGC 114

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 513545 seqs, 74649064 residues

Total number of hits satisfying chosen parameters: 513545

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database : Issued_Patents_AA:*

1: /cgn2_6/pctdata/1/iaa/5k_COMB.pep.*
2: /cgn2_6/pctdata/1/iaa/5b_COMB.pep.*
3: /cgn2_6/pctdata/1/iaa/6a_COMB.pep.*
4: /cgn2_6/pctdata/1/iaa/6b_COMB.pep.*
5: /cgn2_6/pctdata/1/iaa/pcus_COMB.pep.*
6: /cgn2_6/pctdata/1/iaa/packfiles1.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

%

Result No. Score Query Match Length DB ID

Description

Result No.	Score	Query Match	Length	DB ID	Description
1	625	100.0	114	2 US-08-887-352B-12	Sequence 12, Appl
2	625	100.0	114	3 US-09-109-207C-12	Sequence 12, Appl
3	625	100.0	114	3 US-09-295-005-12	Sequence 12, Appl
4	625	100.0	114	4 US-09-920-171-12	Sequence 12, Appl
5	625	100.0	114	4 US-09-716-028-20	Sequence 12, Appl
6	625	100.0	114	4 US-09-028-116-12	Sequence 12, Appl
7	625	100.0	114	4 US-10-113-996-12	Sequence 12, Appl
8	625	100.0	229	2 US-08-887-352B-20	Sequence 20, Appl
9	625	100.0	229	3 US-09-207C-20	Sequence 20, Appl
10	625	100.0	229	3 US-09-296-005-20	Sequence 20, Appl
11	625	100.0	229	4 US-09-920-171-20	Sequence 20, Appl
12	625	100.0	229	4 US-09-716-028-20	Sequence 20, Appl
13	625	100.0	233	2 US-08-887-352B-25	Sequence 25, Appl
14	625	100.0	233	3 US-09-207C-25	Sequence 25, Appl
15	625	100.0	233	3 US-09-296-005-25	Sequence 25, Appl
16	625	100.0	233	4 US-09-920-171-25	Sequence 25, Appl
17	625	100.0	233	4 US-09-716-028-25	Sequence 25, Appl
18	625	100.0	233	4 US-10-113-996-25	Sequence 25, Appl
19	625	100.0	248	2 US-08-887-352B-22	Sequence 22, Appl
20	625	100.0	248	3 US-09-109-207C-22	Sequence 22, Appl
21	625	100.0	248	3 US-09-296-005-22	Sequence 22, Appl
22	625	100.0	248	4 US-09-920-171-22	Sequence 22, Appl
23	625	100.0	248	4 US-09-716-028-22	Sequence 22, Appl
24	625	100.0	248	4 US-10-113-996-22	Sequence 22, Appl
25	625	100.0	451	2 US-08-887-352B-14	Sequence 14, Appl
26	625	100.0	451	2 US-08-887-352B-16	Sequence 14, Appl
27	625	100.0	451	3 US-08-466-151-65	Sequence 14, Appl

ALIGNMENTS

RESULT 1
US-08-887-352B-12
; Sequence 12, Application US/08887352B
; Patent No. 5994511
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IGE Antibodies and Method of
; TITLE OF INVENTION: Improving Polypeptides
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 1 DNA Way
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Winpatin (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/887,352B
; FILING DATE: 03-JUL-1997
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Svoboda, Craig G.
; REGISTRATION NUMBER: 39,044
; REFERENCE/DOCKET NUMBER: P1123
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650/225-1489
; TELEFAX: 650/932-9881
; INFORMATION FOR SEQ ID NO: 12:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 114 amino acids
; TYPE: Amino Acid
; TOPOLOGY: Linear
; US-08-887-352B-12

Query Match 100.0%; Score 625; DB 2; Length 114;
Best Local Similarity 100.0%; Pred. No. 4.6e-54; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; MiMatches 0; Sequence 14, Appl
Sequence 16, Appl
Sequence 17, Appl
Sequence 18, Appl
Sequence 19, Appl
Sequence 20, Appl
Sequence 21, Appl
Sequence 22, Appl
Sequence 23, Appl
Sequence 24, Appl
Sequence 25, Appl
Sequence 26, Appl
Sequence 27, Appl
Sequence 28, Appl
Sequence 29, Appl
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Sequence 35, Appl
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Sequence 37, Appl
Sequence 38, Appl
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Sequence 41, Appl
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Sequence 55, Appl
Sequence 56, Appl
Sequence 57, Appl
Sequence 58, Appl
Sequence 59, Appl
Sequence 60, Appl
Sequence 61, Appl
Sequence 62, Appl
Sequence 63, Appl
Sequence 64, Appl
Sequence 65, Appl

Query 1 EVOLVEGGGLVQPGGSLRL..... YCARGSHYFGHWHPAVWGGC 114
1 EVOLVEGGGLVQPGGSLRL..... YCARGSHYFGHWHPAVWGGC 114
Sequence 61 NPSVKGRTISRSRSKNTVYQLOMSIRASDATTAVVCAHSYFGHWHPAVWGGC 114
61 NPSVKGRTISRSRSKNTVYQLOMSIRASDATTAVVCAHSYFGHWHPAVWGGC 114
61 NPSVKGRTISRSRSKNTVYQLOMSIRASDATTAVVCAHSYFGHWHPAVWGGC 114

RESULT 2
US-09-109-207C-12
; Sequence 12, Application US/09109207C
; Patent No. 6112213

; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptide
; FILE REFERENCE: P1123R1

; CURRENT APPLICATION NUMBER: US/09/109,207C
; CURRENT FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 12
; LENGTH: 114
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-114
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-109-207C-12

Query Match 100.0%; Score 625; DB 3; Length 114;
Best Local Similarity 100.0%; Pred. No. 4.6e-54; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLQPGGSLRLSCAVGSYSITSGSYSWMWIRQAPGKLEWASITYDGSTNY 60
Db 1 EVOLVESGGGLQPGGSLRLSCAVGSYSITSGSYSWMWIRQAPGKLEWASITYDGSTNY 60

Qy 61 NPSVKGRTISRDSDKTFYQIQLMNSRAEDTAVYCARSHVYFGHWHFAVWGQG 114
Db 61 NPSVKGRTISRDSDKTFYQIQLMNSRAEDTAVYCARSHVYFGHWHFAVWGQG 114

RESULT 3
US-09-296-005-12
; Sequence 12, Application US/09296005
; Patent No. 6230957

; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123R1

; CURRENT APPLICATION NUMBER: US/09/296,005
; CURRENT FILING DATE: 1999-04-21
; EARLIER APPLICATION NUMBER: US 08/887,352
; EARLIER FILING DATE: 1997-07-02
; NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 12
; LENGTH: 114
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-114
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-296-005-12

Query Match 100.0%; Score 625; DB 3; Length 114;
Best Local Similarity 100.0%; Pred. No. 4.6e-54; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLQPGGSLRLSCAVGSYSITSGSYSWMWIRQAPGKLEWASITYDGSTNY 60
Db 1 EVOLVESGGGLQPGGSLRLSCAVGSYSITSGSYSWMWIRQAPGKLEWASITYDGSTNY 60

Qy 61 NPSVKGRTISRDSDKTFYQIQLMNSRAEDTAVYCARSHVYFGHWHFAVWGQG 114
Db 61 NPSVKGRTISRDSDKTFYQIQLMNSRAEDTAVYCARSHVYFGHWHFAVWGQG 114

RESULT 4
US-09-920-171-12
; Sequence 12, Application US/09920171
; Patent No. 6682735

; GENERAL INFORMATION:
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
; FILE REFERENCE: P1123C20S

; CURRENT APPLICATION NUMBER: US/09/920,171
; CURRENT FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 08/887,352

; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 12
; LENGTH: 114
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-920-171-12

Query Match 100.0%; Score 625; DB 4; Length 114;
Best Local Similarity 100.0%; Pred. No. 4.6e-54; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLQPGGSLRLSCAVGSYSITSGSYSWMWIRQAPGKLEWASITYDGSTNY 60
Db 1 EVOLVESGGGLQPGGSLRLSCAVGSYSITSGSYSWMWIRQAPGKLEWASITYDGSTNY 60

Qy 61 NPSVKGRTISRDSDKTFYQIQLMNSRAEDTAVYCARSHVYFGHWHFAVWGQG 114
Db 61 NPSVKGRTISRDSDKTFYQIQLMNSRAEDTAVYCARSHVYFGHWHFAVWGQG 114

RESULT 5
US-09-716-028-12
; Sequence 12, Application US/09716028
; Patent No. 6723833

; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123R1

; CURRENT APPLICATION NUMBER: US/09/716,028
; CURRENT FILING DATE: 2000-11-17
; PRIOR APPLICATION NUMBER: US 09/109,207

; PRIOR FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 12
; LENGTH: 114
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-114
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-716-028-12

Query Match 100.0%; Score 625; DB 4; Length 114;
Best Local Similarity 100.0%; Pred. No. 4.6e-54; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLQPGGSLRLSCAVGSYSITSGSYSWMWIRQAPGKLEWASITYDGSTNY 60
Db 1 EVOLVESGGGLQPGGSLRLSCAVGSYSITSGSYSWMWIRQAPGKLEWASITYDGSTNY 60

Qy 61 NPSVKGRTISRDSDKTFYQIQLMNSRAEDTAVYCARSHVYFGHWHFAVWGQG 114
Db 61 NPSVKGRTISRDSDKTFYQIQLMNSRAEDTAVYCARSHVYFGHWHFAVWGQG 114

RESULT 11
US-09-716-028-20
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123RL
; CURRENT APPLICATION NUMBER: US/09/716,028
; CURRENT FILING DATE: 2000-11-17

RESULT 12
US-10-113-996-20
; Sequence 20 Application US/10113996
; PATENT NO. 6761889
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
; FILE REFERENCE: P1123C2US
; CURRENT APPLICATION NUMBER: US/09/920,171
; CURRENT FILING DATE: 2001-08-01
; PRIORITY NUMBER: US 08/887,352
; PRIORITY FILING DATE: 1997-07-02
; PRIORITY APPLICATION NUMBER: US 09/296,005
; PRIORITY FILING DATE: 1999-04-21
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 20
; LENGTH: 229
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Heavy chain F(ab) sequence derived from MAE11
; US-09-920-171-20

Query Match 100.0%; Score 625; DB 4; Length 229;
Best Local Similarity 100.0%; Pred. No. 1e-53; 0; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
; Sequence 20, Application US/09920171
; PATENT NO. 6682735
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
; FILE REFERENCE: P1123C2US
; CURRENT APPLICATION NUMBER: US/09/920,171
; CURRENT FILING DATE: 2001-08-01
; PRIORITY NUMBER: US 08/887,352
; PRIORITY FILING DATE: 1997-07-02
; PRIORITY APPLICATION NUMBER: US 09/296,005
; PRIORITY FILING DATE: 1999-04-21
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 20
; LENGTH: 229
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Heavy chain F(ab) sequence derived from MAE11
; US-09-920-171-20

Query Match 100.0%; Score 625; DB 4; Length 229;
Best Local Similarity 100.0%; Pred. No. 1e-53; 0; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
; Sequence 20, Application US/09920171
; PATENT NO. 6723833
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123RL
; CURRENT APPLICATION NUMBER: US/09/716,028
; CURRENT FILING DATE: 2000-11-17

RESULT 13
US-08-887-352B-25
; Sequence 25 Application US/08887352B
; PATENT NO. 594511

GENERAL INFORMATION:

APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe

TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of

TITLE OF INVENTION: Improving Polypeptides

NUMBER OF SEQUENCES: 26

CORRESPONDENCE ADDRESS:

ADDRESSEE: Genentech, Inc.

STREET: 1 DNA Way

CITY: South San Francisco

STATE: California

COUNTRY: USA

ZIP: 94080

COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: WinPatin (Genentech)

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/887,352B

FILING DATE: 03-Jul-1997

CLASSIFICATION: 530

ATTORNEY/AGENT INFORMATION:

NAME: Svoboda, Craig G.

REGISTRATION NUMBER: 39,044

REFERENCE/DOCKET NUMBER: P1123

TELEPHONE: 650/225-1489

TELEFAX: 650/952-9881

INFORMATION FOR SEQ ID NO: 25:

SEQUENCE CHARACTERISTICS:

LENGTH: 233 amino acids

TYPE: Amino Acid

TOPOLOGY: Linear

RESULT 14

IS-08-887-352B-25

Query Match 100.0%; Score 625; DB 2; Length 233;

Best Local Similarity 100.0%; Pred. No. 1e-53; 0; Mismatches 0; Indels 0; Gaps 0;

Matches 114; Conservative 0;

Patent No. 6172213

GENERAL INFORMATION:

APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe

TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides

FILE REFERENCE: P1123RL

CURRENT APPLICATION NUMBER: US/09/109,207C

CURRENT FILING DATE: 1998-06-30

PRIOR APPLICATION NUMBER: US 60/051,554

PRIOR FILING DATE: 1997-07-03

NUMBER OF SEQ ID NOS: 44

SEQ ID NO 25

LENGTH: 233

TYPE: PRT

ORGANISM: Artificial

FEATURE:

NAME/KEY: Artificial sequence

LOCATION: 1-233

OTHER INFORMATION: Heavy chain F(ab)2 sequence derived from MAB11

IS-09-109-207C-25

Query Match 100.0%; Score 625; DB 3; Length 233;

Best Local Similarity 100.0%; Pred. No. 1e-53;

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RESULT 15
US-09-296.005-25
Sequence 25, Application US/09296005
; General INFORMATION:
; Patent No. 6290957
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgG Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123C1
; CURRENT APPLICATION NUMBER: US/09/296,005
; CURRENT FILING DATE: 1999-04-21
; EARLIER APPLICATION NUMBER: US 08/887,352
; EARLIER FILING DATE: 1997-07-02
; NUMBER OF SEQ ID NOS: 26
SEQ ID NO 25
LENGTH: 233
TYPE: PRT
FEATURE:
ORGANISM: Artificial
NAME/KEY: artificial sequence
LOCATION: 1-233
; OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAE11
US-09-296.005-25

Query Match 100 %; Score 625; DB 3; Length 233;
Best Local Similarity 100 %; Pred. No. 1e-53; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; mismatches 0; indels 0; gaps 0;
; General INFORMATION:
; Patent No. 6682735
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
; FILE REFERENCE: P1123C05
; CURRENT APPLICATION NUMBER: US/09/920,171
; CURRENT FILING DATE: 2001-08-01
; PRIORITY APPLICATION NUMBER: US 08/887,352
; PRIORITY FILING DATE: 1997-07-02
; PRIORITY APPLICATION NUMBER: US 09/296,005
; PRIORITY FILING DATE: 1999-04-21
; NUMBER OF SEQ ID NOS: 44
SEQ ID NO 25
LENGTH: 233
TYPE: PRT
ORGANISM: Artificial Sequence
; OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAE11
US-09-920-171-25

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Query Match 100.0%; Score 625; DB 4; Length 233;
 Best Local Similarity 100.0%; Pred. No. 1e-53; 0; Mismatches 0; Indels 0; Gaps 0;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLVQPGSRLSCAVSGYSITSGYSWMWIRQAPGKGLWVASTYDGSTNY 60
 Db 1 EVOLVESGGGLVQPGSRLSCAVSGYSITSGYSWMWIRQAPGKGLWVASTYDGSTNY 60
 Qy 61 NPSVKGRITISRDSDKTFLQNSLRAEDTAVYCARSHYFGHMHFAWQCG 114
 Db 61 NPSVKGRITISRDSDKTFLQNSLRAEDTAVYCARSHYFGHMHFAWQCG 114

RESULT 17
 US-09-716-028-25
 ; Sequence 25, Application US/0971628
 ; Patent No. 672383
 ; GENERAL INFORMATION:
 ; APPLICANT: Henry B. Lowman, Leonard G. Presa, Paula M. Jardieu, John Lowe
 ; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
 ; FILE REFERENCE: P1123RL
 ; CURRENT APPLICATION NUMBER: US/09/716,028
 ; CURRENT FILING DATE: 2000-11-17
 ; PRIOR APPLICATION NUMBER: US 09/109,207
 ; PRIOR FILING DATE: 1998-06-30
 ; PRIOR APPLICATION NUMBER: US 60/1051,554
 ; PRIOR FILING DATE: 1997-07-03
 ; NUMBER OF SEQ ID NOS: 44
 ; SEQ ID NO 25
 ; LENGTH: 233
 ; TYPE: PRT
 ; FEATURE:
 ; LOCATION: 1-233
 ; NAME/KEY: Artificial sequence
 ; OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAE11
 ; US-09-716-028-25

Query Match 100.0%; Score 625; DB 4; Length 233;
 Best Local Similarity 100.0%; Pred. No. 1e-53; 0; Mismatches 0; Indels 0; Gaps 0;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLVQPGSRLSCAVSGYSITSGYSWMWIRQAPGKGLWVASTYDGSTNY 60
 Db 1 EVOLVESGGGLVQPGSRLSCAVSGYSITSGYSWMWIRQAPGKGLWVASTYDGSTNY 60
 Qy 61 NPSVKGRITISRDSDKTFLQNSLRAEDTAVYCARSHYFGHMHFAWQCG 114
 Db 61 NPSVKGRITISRDSDKTFLQNSLRAEDTAVYCARSHYFGHMHFAWQCG 114

RESULT 19
 US-08-887-352B-22
 ; Sequence 22, Application US/08887352B
 ; Patent No. 594511
 ; GENERAL INFORMATION:
 ; APPLICANT: Henry B. Lowman, Leonard G. Presa, Paula M. Jardieu, John Lowe
 ; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
 ; TITLE OF INVENTION: Improving Polypeptides
 ; NUMBER OF SEQ ID NOS: 26
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Genentech, Inc.
 ; STREET: 1 DNA Way
 ; CITY: South San Francisco
 ; STATE: California
 ; COUNTRY: USA
 ; ZIP: 94080
 ; COMPUTER READABLE FORM:
 ; COMPUTER TYPE: 3.5 inch, 1.44 Mb floppy disk
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: WinBatch (Genentech)
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/887,352B
 ; FILING DATE: 03-JUL-1997
 ; CLASSIFICATION: 530
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Svoboda, Craig G.
 ; REGISTRATION NUMBER: 39,044
 ; REFERENCE/DOCKET NUMBER: P1123
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 650/222-1489
 ; TELEFAX: 650/952-9881
 ; INFORMATION FOR SEQ ID NO: 22:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 248 amino acids
 ; TYPE: Amino Acid
 ; TOPOLOGY: Linear
 ; US-08-887-352B-22

Query Match 100.0%; Score 625; DB 2; Length 248;
 Best Local Similarity 100.0%; Pred. No. 1.e-53; 0; Mismatches 0; Indels 0; Gaps 0;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLVQPGSRLSCAVSGYSITSGYSWMWIRQAPGKGLWVASTYDGSTNY 60
 Db 1 EVOLVESGGGLVQPGSRLSCAVSGYSITSGYSWMWIRQAPGKGLWVASTYDGSTNY 60
 Qy 61 NPSVKGRITISRDSDKTFLQNSLRAEDTAVYCARSHYFGHMHFAWQCG 114
 Db 61 NPSVKGRITISRDSDKTFLQNSLRAEDTAVYCARSHYFGHMHFAWQCG 114

RESULT 20
 US-09-109-207C-22

Sequence 22, Application US/09109207C
; Patent No. 6177213
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptide
; CURRENT APPLICATION NUMBER: US/09/109,207C
; CURRENT FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 22
; LENGTH: 248
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-248
; OTHER INFORMATION: sFv sequence derived from MAE11
; US-09-109-207C-22

Query Match 100.0%; Score 625; DB 3; Length 248;
Best Local Similarity 100.0%; Pred. No. 1.1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EVOLVESGGGLVOPGGSIRLSCAVGSYTSITGSYSWNWIRQAPGKLEWA
Db 1 EVOLVESGGGLVOPGGSIRLSCAVGSYTSITGSYSWNWIRQAPGKLEWA
QY 61 NPSVKGRTISRDSDKTFYQLONSRLRAEDTAVYCCARGSHYFGHWF
Db 61 NPSVKGRTISRDSDKTFYQLONSRLRAEDTAVYCCARGSHYFGHWF
RESULT 21
US-09-296-005-22
Sequence 22, Application US/09296005
; Patent No. 6230957
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/296, 005
; CURRENT FILING DATE: 1999-04-21
; EARLIER APPLICATION NUMBER: US 08/887, 352
; EARLIER FILING DATE: 1997-07-02
; NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 22
; LENGTH: 248
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-248
; OTHER INFORMATION: sFv sequence derived from MAE11
; US-09-296-005-22

Query Match 100.0%; Score 625; DB 3; Length 248;
Best Local Similarity 100.0%; Pred. No. 1.1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EVOLVESGGGLVOPGGSIRLSCAVGSYTSITGSYSWNWIRQAPGKLEWA
Db 1 EVOLVESGGGLVOPGGSIRLSCAVGSYTSITGSYSWNWIRQAPGKLEWA
QY 61 NPSVKGRTISRDSDKTFYQLONSRLRAEDTAVYCCARGSHYFGHWF
Db 61 NPSVKGRTISRDSDKTFYQLONSRLRAEDTAVYCCARGSHYFGHWF
RESULT 23
US-09-716-038-22
Sequence 22, Application US/09716028
; Patent No. 6723833
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/716, 028
; CURRENT FILING DATE: 2000-11-17
; PRIOR APPLICATION NUMBER: US 09/109, 207
; PRIOR FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051, 554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 22
; LENGTH: 248
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-248
; OTHER INFORMATION: sFv sequence derived from MAE11
; US-09-716-038-22

Query Match 100.0%; Score 625; DB 4; Length 248;
Best Local Similarity 100.0%; Pred. No. 1.1e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 EVOLVESGGGLVOPGGSIRLSCAVGSYTSITGSYSWNWIRQAPGKLEWA
Db 1 EVOLVESGGGLVOPGGSIRLSCAVGSYTSITGSYSWNWIRQAPGKLEWA
QY 61 NPSVKGRTISRDSDKTFYQLONSRLRAEDTAVYCCARGSHYFGHWF
Db 61 NPSVKGRTISRDSDKTFYQLONSRLRAEDTAVYCCARGSHYFGHWF
RESULT 22
US-09-296-017-22
; Sequence 22, Application US/09920171

RESULT 24
 US-10-113-996-22
 ; Sequence 22, Application US/10113996
 ; Patent No. 671889
 ; GENERAL INFORMATION:
 ; APPLICANT: Lowman, Henry B.
 ; APPLICANT: Jardieu, Paula M.
 ; TITLE OF INVENTION: Improved Anti-IgE Antibodies
 ; FILE REFERENCE: P1123C3US
 ; CURRENT APPLICATION NUMBER: US/10/113,996
 ; CURRENT FILING DATE: 2002-04-01
 ; PRIOR APPLICATION NUMBER: US 08/887,352
 ; PRIOR FILING DATE: 1997-07-02
 ; PRIOR APPLICATION NUMBER: US 09/296,005
 ; PRIOR FILING DATE: 1999-04-21
 ; PRIOR APPLICATION NUMBER: US 09/920,171
 ; PRIOR FILING DATE: 2001-08-01
 ; NUMBER OF SEQ ID NOS: 44
 ; SEQ ID NO 22
 ; LENGTH: 248
 ; TYPE: PRT
 ; ORGANISM: Artificial Sequence
 ; OTHER INFORMATION: SFV sequence derived from MAB11
 ; US-10-113-996-22

Query Match 100.0%; Score 625; DB 4; Length 248;
 Best Local Similarity 100.0%; Pred. No. 1.1e-53; Mismatches 0; Indels 0; Gaps 0;
 Matches 114; Conservative 0; MisMatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLVQPGSIRLSCAVGSYISITGSYSWNTRQAPGKGLEWASITYDGSTNY 60
 Db 1 EVOLVESGGGLVQPGSIRLSCAVGSYISITGSYSWNTRQAPGKGLEWASITYDGSTNY 60

Qy 61 NPSVKGRTISRDSDKNTFYQMNLSRAEDTAVYCARSHYFGHWHFAVWQG 114
 Db 61 NPSVKGRTISRDSDKNTFYQMNLSRAEDTAVYCARSHYFGHWHFAVWQG 114

RESULT 25
 US-08-887-352B-14
 ; Sequence 14, Application US/08887352B
 ; Patent No. 5994511
 ; GENERAL INFORMATION:
 ; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
 ; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of
 ; NUMBER OF SEQUENCES: 26
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Genentech, Inc.
 ; STREET: 1 DNA Way
 ; CITY: South San Francisco
 ; STATE: California
 ; COUNTRY: USA
 ; ZIP: 94080
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: Mirratin (Genentech)
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/887,352B
 ; PILING DATE: 03-JUL-1997
 ; CLASSIFICATION: 530
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Svoboda, Craig G.
 ; REGISTRATION NUMBER: 39,044
 ; REFERENCE/DOCKET NUMBER: P1123
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 650/225-1489
 ; TELEFAX: 650/952-9881
 ; INFORMATION FOR SEQ ID NO: 16:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 451 amino acids
 ; TYPE: Amino Acid
 ; TOPOLOGY: Linear
 ; US-08-887-352B-16

Query Match 100.0%; Score 625; DB 2; Length 451;
 Best Local Similarity 100.0%; Pred. No. 2.2e-53; Mismatches 0; Indels 0; Gaps 0;
 Matches 114; Conservative 0; MisMatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLVQPGSIRLSCAVGSYISITGSYSWNTRQAPGKGLEWASITYDGSTNY 60
 Db 1 EVOLVESGGGLVQPGSIRLSCAVGSYISITGSYSWNTRQAPGKGLEWASITYDGSTNY 60

Qy 61 NPSVKGRTISRDSDKNTFYQMNLSRAEDTAVYCARSHYFGHWHFAVWQG 114
 Db 61 NPSVKGRTISRDSDKNTFYQMNLSRAEDTAVYCARSHYFGHWHFAVWQG 114

RESULT 2
US-08-466-151-65
Sequence 65, Application US/08466151
PATENT NO. 603453
GENERAL INFORMATION:
APPLICANT: Jardieu, Paula M.
APPLICANT: Presta, Leonard G.
TITLE OF INVENTION: Immunoglobulin Variants
NUMBER OF SEQUENCES: 65
COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/466,151
FILING DATE:
CLASSIFICATION:
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: 08/466163
FILING DATE: 06-Jun-1995
APPLICATION NUMBER: 08/405617
FILING DATE: 15-MAR-1995
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: 08/158899
FILING DATE: 26-JAN-1994
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: 07/879495
FILING DATE: 07-MAY-1992
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: 07/744768
FILING DATE: 14-AUG-1991
ATTORNEY/AGENT INFORMATION:
NAME: Svododa, Craig G.
REGISTRATION NUMBER: 39,044
REFERENCE/DOCKET NUMBER: P0718P2C1D1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650/952-9881
TELEFAX: 650/952-9881
INFORMATION FOR SEQ ID NO: 65:
SEQUENCE CHARACTERISTICS:
LENGTH: 451 amino acids
TYPE: Amino Acid
TOPOLOGY: Linear
US-08-466-151-65
Query Match 100.0%; Score 625; DB 3; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.2e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 EVOLVESGGGLVQPGSRLIRSCAVGYSITSGYSWNWIRQAPGKLEWASITYGSTNY 60
Db 1 EVOLVESGGGLVQPGSRLIRSCAVGYSITSGYSWNWIRQAPGKLEWASITYGSTNY 60
Qy 61 NPSVKGRITISRDDSNTFVQOMSIRAEATAVVYCARSHYFGWHFAVGQG 114
Db 61 NPSVKGRITISRDDSNTFVQOMSIRAEATAVVYCARSHYFGWHFAVGQG 114
RESULT 29
US-09-109-207C-14
Query Match 100.0%; Score 625; DB 3; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.2e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 EVOLVESGGGLVQPGSRLIRSCAVGYSITSGYSWNWIRQAPGKLEWASITYGSTNY 60
Db 1 EVOLVESGGGLVQPGSRLIRSCAVGYSITSGYSWNWIRQAPGKLEWASITYGSTNY 60
Qy 61 NPSVKGRITISRDDSNTFVQOMSIRAEATAVVYCARSHYFGWHFAVGQG 114
Db 61 NPSVKGRITISRDDSNTFVQOMSIRAEATAVVYCARSHYFGWHFAVGQG 114
RESULT 29
US-09-109-207C-16
Sequence 16, Application US/09109207C
Patent No. 6172213
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptide
FILE REFERENCE: P122C1R
CURRENT FILING DATE: 1998-05-30
PRIORITY FILING DATE: 1997-07-03
NUMBER OF SEQ ID NOS: 44
SEQ ID NO 14
LENGTH: 451
TYPE: PRT
ORGANISM: Artificial
FEATURE:
NAME/KEY: Artificial
LOCATION: 1-451
OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-09-109-207C-14
Query Match 100.0%; Score 625; DB 3; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.2e-53;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 EVOLVESGGGLVQPGSRLIRSCAVGYSITSGYSWNWIRQAPGKLEWASITYGSTNY 60
Db 1 EVOLVESGGGLVQPGSRLIRSCAVGYSITSGYSWNWIRQAPGKLEWASITYGSTNY 60
Qy 61 NPSVKGRITISRDDSNTFVQOMSIRAEATAVVYCARSHYFGWHFAVGQG 114
Db 61 NPSVKGRITISRDDSNTFVQOMSIRAEATAVVYCARSHYFGWHFAVGQG 114
RESULT 30
US-09-296-005-14
Sequence 14, Application US/09296005
Patent No. 622957
GENERAL INFORMATION:
APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptide
FILE REFERENCE: P122C1R

```

; CURRENT APPLICATION NUMBER: US/09/296, 005
; CURRENT FILING DATE: 1999-04-21
; EARLIER APPLICATION NUMBER: US 08/887, 352
; NUMBER OF SEQ ID NOS: 26
; SEQ ID NO: 14
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-451
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
; US-09-296-005-14

Query Match 100.0%; Score 625; DB 3; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.2e-53; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; MisMatches 0; DelMatches 0; GapMatches 0;

Oy 1 EVOLVESGGLYVPGGSLRLSCAVSGVSYITSGYSWNNWIRQAPKGKLEWAVASYTDGNTY 60
Db 1 EVOLVESGGLYVPGGSLRLSCAVSGVSYITSGYSWNNWIRQAPKGKLEWAVASYTDGNTY 60

Oy 61 NPSVKGRTISRDSDKNTFYLQIQLNSLRAEDTAVYCAARGSHYFGHMHFAVMQG 114
Db 61 NPSVKGRTISRDSDKNTFYLQIQLNSLRAEDTAVYCAARGSHYFGHMHFAVMQG 114

RESULT 31
US-09-296-005-15
; Sequence 16, Application US/09296005
; Patent No. 6220957
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Love
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123CLR
; CURRENT APPLICATION NUMBER: US/09/296, 005
; CURRENT FILING DATE: 1999-04-21
; EARLIER APPLICATION NUMBER: US 08/887, 352
; EARLIER FILING DATE: 1997-07-02
; NUMBER OF SEQ ID NOS: 26
; SEQ ID NO: 16
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-451
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
; US-09-296-005-16

Query Match 100.0%; Score 625; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.2e-53; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; MisMatches 0; DelMatches 0; GapMatches 0;

Oy 1 EVOLVESGGLYVPGGSLRLSCAVSGVSYITSGYSWNNWIRQAPKGKLEWAVASYTDGNTY 60
Db 1 EVOLVESGGLYVPGGSLRLSCAVSGVSYITSGYSWNNWIRQAPKGKLEWAVASYTDGNTY 60

Oy 61 NPSVKGRTISRDSDKNTFYLQIQLNSLRAEDTAVYCAARGSHYFGHMHFAVMQG 114
Db 61 NPSVKGRTISRDSDKNTFYLQIQLNSLRAEDTAVYCAARGSHYFGHMHFAVMQG 114

RESULT 32
US-09-296-005-16
; Sequence 16, Application US/09296005
; Patent No. 6220957
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Love
; TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
; FILE REFERENCE: P1123CZUS
; CURRENT APPLICATION NUMBER: US/09/920, 171
; CURRENT FILING DATE: 2001-08-01
; PRIORITY NUMBER: US 08/887, 352
; PRIORITY NUMBER: US 09/296, 005
; PRIORITY FILING DATE: 1997-07-02
; PRIORITY FILING DATE: 1999-04-21
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO: 16
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
; US-09-920-171-16

Query Match 100.0%; Score 625; DB 3; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.2e-53; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; MisMatches 0; DelMatches 0; GapMatches 0;

Oy 1 EVOLVESGGLYVPGGSLRLSCAVSGVSYITSGYSWNNWIRQAPKGKLEWAVASYTDGNTY 60
Db 1 EVOLVESGGLYVPGGSLRLSCAVSGVSYITSGYSWNNWIRQAPKGKLEWAVASYTDGNTY 60

Oy 61 NPSVKGRTISRDSDKNTFYLQIQLNSLRAEDTAVYCAARGSHYFGHMHFAVMQG 114
Db 61 NPSVKGRTISRDSDKNTFYLQIQLNSLRAEDTAVYCAARGSHYFGHMHFAVMQG 114

RESULT 33
US-09-920-171-16
; Sequence 16, Application US/09920171
; Patent No. 6682735
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Love, John
; TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
; FILE REFERENCE: P1123CZUS
; CURRENT APPLICATION NUMBER: US/09/920, 171
; CURRENT FILING DATE: 2001-08-01
; PRIORITY NUMBER: US 08/887, 352
; PRIORITY NUMBER: US 09/296, 005
; PRIORITY FILING DATE: 1997-07-02
; PRIORITY FILING DATE: 1999-04-21
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO: 16
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
; US-09-920-171-16

Query Match 100.0%; Score 625; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 2.2e-53; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; MisMatches 0; DelMatches 0; GapMatches 0;

Oy 1 EVOLVESGGLYVPGGSLRLSCAVSGVSYITSGYSWNNWIRQAPKGKLEWAVASYTDGNTY 60
Db 1 EVOLVESGGLYVPGGSLRLSCAVSGVSYITSGYSWNNWIRQAPKGKLEWAVASYTDGNTY 60

Oy 61 NPSVKGRTISRDSDKNTFYLQIQLNSLRAEDTAVYCAARGSHYFGHMHFAVMQG 114
Db 61 NPSVKGRTISRDSDKNTFYLQIQLNSLRAEDTAVYCAARGSHYFGHMHFAVMQG 114

RESULT 34
US-09-716-008-14
; Sequence 14, Application US/09920171
; Patent No. 6682735
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Love, John
; APPLICANT: Lowe, John

```

RESULT 36

Mon Jun 6 05:40:57 2005

usb-10-791-619-12.rai

Page 12

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Db      1 EYOLVESCGGIQPGSJRLSCAVSGYSITSYSWMRQOKGLEMVASTYDSTNY 60
Qy      61 NPSVKGRITISRDSDSKNPFYQMNLSRAEDTAVYCARSHFPHWHFPAWQOG 114
Db      61 NPSVKGRITISRDSDSKNPFYQMNLSRAEDTAVYCARSHFPHWHFPAWQOG 114
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Search completed: June 3, 2005, 12:48:20
Job time : 23 secs

GenCore version 5.1.6									
Copyright (c) 1993 - 2005 Compugen Ltd.									
OM protein - protein search, using sw model									
Run on:	June 3, 2005, 12:42:53	:	Search time 70 Seconds						
Title:	US-10-791-619-12		(without alignment(s))						
Perfect score:	625		629.867 Million cell updates/sec						
Sequence:	EVOLVLSGGGVVQPGSRLI. YCARGSHYFQGHHRHRAVNGQ 114								
Scoring table:	BLOSUM62								
Gapop:	10.0	,	Gapext:	0.5					
Searched:	2105692	seqs,	386760381	residues					
Total number of hits satisfying chosen parameters:	2105692								
Minimum DB seq length:	0								
Maximum DB seq length:	200000000								
Post-processing: Minimum Match 0%									
Maximum Match 100%									
Listing first 45 summaries									
Database :	A_Geneseq 16hec04:*								
1:	geneseqp1980s:*								
2:	geneseqp1990s:*								
3:	geneseqp2000s:*								
4:	geneseqp2010s:*								
5:	geneseqp2002s:*								
6:	geneseqp2003as:*								
7:	geneseqp2003bs:*								
8:	geneseqp2004s:*								
Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.									
SUMMARIES									
Result No.	Score	%	Query	Length	DB	ID	Description	RESULT 1	
1	625	100.0	114	2	AAW95657		AAW95557 Mus muscu	AAW95557	standard; protein: 114 AA.
2	625	100.0	114	4	AAW76946		AAW76946 Variable	XX	
3	625	100.0	114	4	ADN07033		ADN07033 Anti-IGE	AC	AAW95657;
4	625	100.0	229	2	AAW95665		AAW95665 Mus muscu	XX	
5	625	100.0	229	4	AAW76954		AAW76954 Variable	XX	
6	625	100.0	229	4	ADN07041		ADN07041 Anti-IGE	XX	
7	625	100.0	229	8	ADN07057		ADN07057 Fab (ab) Pha	DR	08-JUN-1999 (first entry)
8	625	100.0	233	2	AAW95670		AAW95670 Mus muscu	XX	Mus musculus anti-IGE e25, e26 & e426 variable heavy chain.
9	625	100.0	233	4	AAW76959		AAW76959 Variable	XX	Variable heavy chain; IgE; antibody; anti-IGE; reduction; prevention; histamine; production; hypersensitivity; allergen; anaphylaxis; atopic allergy; asthma; allergic rhinitis; conjunctivitis; hay fever; eczema; anaphylactic shock; urticaria.
10	625	100.0	233	8	ADN07046		ADN07046 Anti-IGE	XX	
11	625	100.0	248	2	AAW95667		AAW95667 Mus muscu	XX	
12	625	100.0	248	4	AAW76956		AAW76956 SVR fragm	XX	
13	625	100.0	248	8	ADN07043		ADN07043 Anti-IGE	XX	
14	625	100.0	451	2	AAW95659		AAW95659 Mus muscu	XX	
15	625	100.0	451	2	AAW95651		AAW95651 Mus muscu	XX	
16	625	100.0	451	3	AAV85201		AAV85201 Light Cha	CC	The sequence is that of the variable heavy chain of e25, e26 and e426. It was used as part of a method to improve the affinity of anti-IGE antibodies such as e26 and e27. The e26 and e27 antibodies can be used for reducing or preventing IgE mediated production of histamine in a
17	625	100.0	451	4	AAB47088		AAB47088 Anti-IGE	CC	harmful. They can be used for treating a disorder mediated by IgE such as hypersensitivity, arctic allergy, asthma, allergic rhinitis, conjunctivitis, hay fever, eczema, anaphylactic shock and urticaria. The antibodies can also be used for affinity purification, detection and
18	625	100.0	451	4	AAW76948		AAW76948 Full leng	CC	diagnosis
19	625	100.0	451	4	AAW76950		AAW76950 Full leng	CC	
20	625	100.0	451	8	ADN07037		ADN07037 Anti-IGE	CC	
21	625	100.0	451	8	ADN07035		ADN07035 Anti-IGE	CC	
22	625	100.0	474	8	ADD90734		ADD90734 Anti-IGE	CC	
23	605	96.8	121	2	AAW95648		AAW95648 Mus muscu	CC	
24	605	96.8	121	4	AAW76937		AAW76937 Variable	CC	
25	605	96.8	121	8	ADN07024		ADN07024 Murine an	XX	
ALIGNMENTS									
26	605	96.8	453	2	AAK3331		AAK3331 Humanized	XX	
27	603	96.5	114	2	AAW95656		AAW95656 Mus muscu	XX	
28	603	96.5	114	4	AAW76945		AAW76945 Variable	XX	
29	603	96.5	114	8	ADN07032		ADN07032 Anti-IGE	XX	
30	603	96.5	229	2	AAW95666		AAW95666 Mus muscu	XX	
31	603	96.5	229	4	AAW76955		AAW76955 Variable	XX	
32	603	96.5	229	4	AAW76957		AAW76957 Anti-IGE	XX	
33	603	96.5	229	8	ADN07042		AAW76957 Murine	XX	
34	603	96.5	233	2	AAW95671		AAW95671 Murine	XX	
35	603	96.5	233	4	AAW76960		AAW76960 Variable	XX	
36	603	96.5	233	8	ADN07047		ADN07047 Anti-IGE	XX	
37	603	96.5	248	2	AAW95668		AAW95668 Mur muscu	XX	
38	603	96.5	248	4	AAW76957		AAW76957 SFV fragm	XX	
39	603	96.5	248	8	ADN07044		AAW76957 Mur muscu	XX	
40	603	96.5	451	2	AAW95663		AAW95663 Mur muscu	XX	
41	603	96.5	451	2	AAW50031		AAW50031 Human E27	XX	
42	603	96.5	451	3	AAW7473		AAW7473 Amino acid	XX	
43	603	96.5	451	4	AAW76952		AAW76952 Full leng	XX	
44	603	96.5	451	4	AAW74212		AAW74212 E27 anti-	XX	
45	603	96.5	451	6	ADU6798		ADU6798 E27 anti-	XX	

SO sequence 114 AA;

Query Match 100.0%; Score 625; DB 2; Length 114;
Best Local Similarity 100.0%; Pred. No. 6.2e-50;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGLVQPGGSLRLSCAVGSGTSGYSITSGYSWNWIRQARPGKLEWASITYDGSTNY 60
Db 1 EVOLVESGGLVQPGGSLRLSCAVGSGTSGYSITSGYSWNWIRQARPGKLEWASITYDGSTNY 60
Qy 61 NPSVKGRTISRDSDKTVLYLQMNSLRAEDTAVVYCARSHVFGHMFPAWMQG 114
Db 61 NPSVKGRTISRDSDKTVLYLQMNSLRAEDTAVVYCARSHVFGHMFPAWMQG 114

RESULT 2
AAB76946
ID AAB76946 standard; protein; 114 AA.
XX
AC AAB76946;
XX
DT 17-APR-2001 (first entry)
XX
DE Variable heavy chain sequence of e25, e26 and e426 SEQ ID 12.
XX
Antibody; antiasthmatic; antiallergic; ophthalmological; dermatological;
KW antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis;
KW conjunctivitis; eczema; urticaria; food allergy.
XX
OS Synthetic.
XX
US6172213-B1.
XX
PR 09-JAN-2001.
XX
PP 30-JUN-1998; 98US-00109207.
XX
PR 02-JUL-1997; 97US-0051554P.
XX
PA (GBT) GENENTECH INC.
PT Lowman HB, Presta LG, Jardieu PM, Lowe J;
DR WPI; 2001-122353/13.
XX
PT New nucleic acid encoding anti-immunoglobulin E antibody with improved
PT properties, produced by substituting aspartyl residues in unimproved
PT immunoglobulin E prone to isomerization by other residues by affinity
PT maturation with phage display.
XX
PS Disclosure; Fig 2; 87pp; English.
XX
CC This invention relates to a nucleotide sequence encoding an antibody with
CC improved anti-IgE antibody activity. The antibody has improved action due
to a process comprising, a) identifying aspartyl residues prone to
CC isomerisation in unimproved anti-IgE (immunoglobulin E) antibody; b)
CC substituting alternative residues to create candidate molecules, and c)
CC selecting those candidate molecules which display affinity against the
CC target molecule. Use of the antibody results in antiasthmatic;
CC anti-allergic; ophthalmological; dermatological and antiinflammatory
CC activity. The antibodies are useful for treating IgE-mediated disorders
CC such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and
CC food allergies. The mutant antibodies produced by the above mentioned
CC nucleic acids may also be used as affinity purification agents and in
CC diagnostic assays for detecting the expression of an antigen of interest
CC in specific cell, tissues or serum. Amino acid sequence AAB76935-
CC AAB76960 represent fragments of anti-IgE antibodies of the invention.
CC Polynucleotide sequence AAF69253 represents an expression plasmid used in
CC the course of the invention, and oligonucleotides AAF69254 - AAF69271 are
XX used in the generation of affinity improved anti-IgE antibodies
SQ Sequence 114 AA;

Query Match 100.0%; Score 625; DB 4; Length 114;
Best Local Similarity 100.0%; Pred. No. 6.2e-50;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGLVQPGGSLRLSCAVGSGTSGYSITSGYSWNWIRQARPGKLEWASITYDGSTNY 60
Db 1 EVOLVESGGLVQPGGSLRLSCAVGSGTSGYSITSGYSWNWIRQARPGKLEWASITYDGSTNY 60
Qy 61 NPSVKGRTISRDSDKTVLYLQMNSLRAEDTAVVYCARSHVFGHMFPAWMQG 114
Db 61 NPSVKGRTISRDSDKTVLYLQMNSLRAEDTAVVYCARSHVFGHMFPAWMQG 114

RESULT 3
ADN07033
ID ADN07033 standard; protein; 114 AA.
XX
AC ADN07033;
XX
DT 01-JUL-2004 (first entry)
XX
DE Anti-IgE antibody e25, e26 and e426 variable heavy chain domain (VH).
XX
Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder;
KW therapy; atopic allergy; anaphylactic hypersensitivity; asthma;
KW allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy;
KW variable heavy chain domain; VH.
XX
OS Unidentified.
XX
FH Key
FT Region
FT /Label= CDR-H1
FT Region
FT /Label= CDR-H2
FT Region
FT /Label= CDR-H3
XX
PN US623833-B1.
XX
PR 20-APR-2004.
XX
PF 17-NOV-2000; 2000US-00716028.
XX
PR 02-JUL-1997; 97US-0051554P.
PR 30-JUN-1998; 98US-00109207.
XX
PA (GBT) GENENTECH INC.
PT Lowman HB, Presta LG, Jardieu PM, Lowe J;
XX
DR WPI; 2004-326922/30.
XX
PT New composition of an improved anti-IgE antibody or IgE binding fragment,
PT useful for treating IgE-mediated diseases, e.g. atopic allergy, asthma,
PT conjunctivitis, eczema, urticaria or food allergies.
XX
PS Disclosure; SEQ ID NO 12; 89pp; English.
XX
CC The invention relates to therapeutic compositions, comprising anti-IgE
CC antibody or IgE binding fragment in combination with an adjunct
CC immunosuppressive agent. The composition is useful for treating IgE-
mediated disorders. The disorders include topical allergy associated with
CC atopathic hypersensitivity and asthma, allergic rhinitis and
CC conjunctivitis, eczema, urticaria and food allergies. The present
CC sequence is an anti-IgE antibody variable heavy chain domain (VH).
XX
Sequence 114 AA;

Query Match 100.0%; Score 625; DB 8; Length 114;
Best Local Similarity 100.0%; Pred. No. 6.2e-50;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

This invention relates to a nucleotide sequence encoding an antibody with improved anti-IgE activity. The antibody has improved action due to a process comprising, a) identifying aspartyl residues prone to isomerisation in unimproved anti-IgE (immunoglobulin E) antibody; b) substituting alternative residues to create candidate molecules, and c) selecting those candidate molecules which display affinity against the target molecule. Use of the antibody results in antiasthmatic, antiallergic, ophthalmological, dermatological and antiinflammatory activity. The antibodies are useful for treating IgE-mediated disorders such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and food allergies. The mutant antibodies produced by the above mentioned nucleic acids may also be used as affinity purification agents and in diagnostic assays for detecting the expression of an antigen of interest in specific cell, tissues or serum. Amino acid sequences AAB76936-C, AAB76937 represent fragments of anti-IgE antibodies of the invention. Polynucleotide sequence AAF6253 represents an expression plasmid used in the course of the invention, and oligonucleotides AAF69254 - AAF69271 are used in the generation of affinity improved anti-IgE antibodies.

CC antibody or IgE binding fragment in combination with an adjunct
 CC immunosuppressive agent. The composition is useful for treating IgE-
 CC mediated disorders. The disorders include atopic allergy associated with
 CC anaphylactic hypersensitivity and asthma, allergic rhinitis and
 CC conjunctivitis, eczema, urticaria and food allergies. The present
 CC fragment is an anti-IgE antibody variable heavy chain (VH) Fab', 2
 CC fragment.

XX Sequence 233 AA;

Query Match Best Local Similarity 100.0%; Score 625; DB 8; Length 233;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EWOLVESGGGLVQPGGSLRLSCAVSGYSITSGISWNWIRQAPKGKLEWASITYDSTNY 60
 Db 1 EVOLVESGGGLVQPGGSLRLSCAVSGYSITSGISWNWIRQAPKGKLEWASITYDSTNY 60

QY 61 NPSVKGRTISRDSSKNTFYLQMSLRAEDTAVYCAARGSHYFGHWHFAWWSQG 114
 Db 61 NPSVKGRTISRDSSKNTFYLQMSLRAEDTAVYCAARGSHYFGHWHFAWWSQG 114

RESULT 11
 AAW95667
 ID AAW95667 standard; protein; 248 AA.
 XX
 AC AAW95667;
 XX
 DT 08-JUN-1999 (first entry)
 DE Mus musculus anti-IgE e26 sFv fragment.
 XX
 KW sFv fragment; IgE; antibody; anti-IgE; reduction; prevention; histamine;
 KW production; hypersensitivity; allergen; anaphylaxis; atopic allergy;
 KW asthma; allergic rhinitis; conjunctivitis; hay fever; eczema;
 KW anaphylactic shock; urticaria.
 XX
 OS Mus musculus.
 XX
 PN WO9901556-A2.
 XX
 PD 14-JAN-1999.
 XX
 PR 30-JUN-1998; 98WO-US013410.
 PR 02-JUL-1997; 97US-00887352.
 XX
 PA (CETH) GENENTECH INC.
 XX
 PT Lowman HB, Presta LG, Jardieu PM, Lowe J;
 XX
 DR WPI; 2001-122353/13.

XX
 PR New nucleic acid encoding anti-immunoglobulin E antibody with improved
 PT properties, produced by substituting aspartyl residues in unimproved
 PT immunoglobulin E prone to isomerization by other residues by affinity
 PT maturation with phage display.
 XX
 PS Disclosure; Fig 14; 87pp; English.
 XX
 CC This invention relates to a nucleotide sequence encoding an antibody with
 CC improved anti-IgE antibody activity. The antibody has improved action due
 CC to a process comprising, a) identifying aspartyl residues prone to
 CC isomerisation in unimproved anti-IgE (immunoglobulin E) antibody; b)
 CC substituting alternative residues to create candidate molecules; and c)
 PT identifying those candidate molecules which display affinity against the
 PT target molecule. Use of the antibody results in antiasthmatic,
 PT anaphylactic, ophthalmological, dermatological and antiinflammatory
 PT activity. The antibodies are useful for treating IgE-mediated disorders
 XX such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and
 PS food allergies. The mutant antibodies produced by the above mentioned
 XX nucleic acids may also be used as affinity purification agents and in
 CC diagnostic assays for detecting the expression of an antigen of interest
 CC in specific cell, tissues or serum. Amino acid sequences AAB76936-
 CC AAB76930 represent fragments of anti-IgE antibodies of the invention.
 CC Polynucleotide sequence AAF69253 represents an expression plasmid used in
 CC the course of the invention, and oligonucleotides AAF69254 - AAF69271 are
 CC used in the generation of affinity improved anti-IgE antibodies
 XX Sequence 248 AA;

Query Match Best Local Similarity 100.0%; Score 625; DB 4; Length 248;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLWQPGGSLRLSCAVGYSITSGYSNWIRQAPGKLEWNASITDGSTY 60
 XX ||||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
 Db 1 EVOLVESGGGLWQPGGSLRLSCAVGYSITSGYSNWIRQAPGKLEWNASITDGSTY 60
 QY 61 NPSVKGRTISRDSSKNTFLQMSLRAEDTAVVYCARSHYFGHWFHAWGOG 114
 XX ||||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
 Db 61 NPSVKGRTISRDSSKNTFLQMSLRAEDTAVVYCARSHYFGHWFHAWGOG 114
 RESULT 13
 ADN07043
 ID ADN07043 standard; protein; 248 AA.
 XX
 AC ADN07043;
 XX
 DT 01-JUL-2004 (first entry)
 XX
 DE Anti-IgE antibody e26 sFv fragment.
 XX
 KW Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder;
 KW therapy; atopic allergy; anaphylactic hypersensitivity; asthma;
 KW allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy.
 XX
 OS Unidentified.
 XX
 US6723833-B1.
 XX
 PD 20-APR-2004.
 XX
 PF 17-NOV-2000; 2000US-00716028.
 XX
 PR 02-JUL-1997; 97US-0051554P.
 PR 30-JUN-1998; 98US-00109207.
 XX
 PA (GETH) GENENTECH INC.
 XX
 PT Lowman HB, Presta LG, Jardieu PM, Lowe J;
 DR WPI; 1999-106057/09.
 XX
 PT Improving affinity of polypeptides, particularly anti-IgE antibodies - by
 PT identifying aspartyl residues which undergo isomerization and
 PT substituting alternative residues and screening for affinity against the
 PT target.
 XX
 PS Disclosure; Page 92-94; 129pp; English.
 XX
 CC The sequence is that of the full length heavy chain of e25. It was used as
 CC part of a method to improve the affinity of anti-IgE antibodies such as
 CC e26 and e27. The e26 and e27 antibodies can be used for reducing or
 CC preventing IgE mediated production of histamine in a mammal. They can be
 CC used for treating a disorder mediated by IgE such as hypersensitivity,
 CC atopic allergy; asthma; allergic rhinitis; conjunctivitis; hay fever;
 CC eczema; anaphylactic shock and urticaria. The antibodies can also be used
 CC for affinity purification, detection and diagnosis
 XX
 SQ Sequence 451 AA;

Query Match 100.0%; Score 625; DB 2; Length 451;
 Best Local Similarity 100.0%; Prod. No. 1.5e-49;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EVOLVESGGGLWQPGGSLRLSCAVGYSITSGYSNWIRQAPGKLEWNASITDGSTY 60
 Db 1 EVOLVESGGGLWQPGGSLRLSCAVGYSITSGYSNWIRQAPGKLEWNASITDGSTY 60
 QY 61 NPSVKGRTISRDSSKNTFLQMSLRAEDTAVVYCARSHYFGHWFHAWGOG 114
 XX ||||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
 Db 61 NPSVKGRTISRDSSKNTFLQMSLRAEDTAVVYCARSHYFGHWFHAWGOG 114
 RESULT 15
 ADW95661
 ID ADW95661 standard; protein; 451 AA.
 XX
 AC ADW95661;
 XX
 DT 08-JUN-1999 (first entry)
 XX
 DE Mus musculus anti-IgE e26 full length heavy chain.
 XX
 KW Heavy chain; IgE; antibody; anti-IgE; reduction; prevention; histamine;
 KW production; hypersensitivity; allergen; anaphylaxis; atopic allergy;
 KW asthma; allergic rhinitis; conjunctivitis; hay fever; eczema;
 KW anaphylactic shock; urticaria.

PI Chisholm V, Crowley CW, Krummen LA, Meng YG;
 XX DR WPI; 2001-138352/14.
 XX PT Novel polynucleotide construct for screening and obtaining cells
 PT expressing high levels of desired protein, comprises amplifiable
 PT selectable gene, fluorescent protein gene and sequence encoding desired
 PT product.
 XX PS Disclosure; Fig 13B, 75pp; English.
 XX CC The sequences given in AAB47087-88 represent the light and heavy chains
 CC of the anti-IGE antibody, E46. These sequences were expressed by the
 CC construct of the invention, which comprises an amplifiable selectable
 CC gene, a green fluorescent protein gene (GFP), and a selected sequence
 CC encoding a desired product, which is operably linked to either the
 CC amplifiable selectable gene or to the GFP gene, and to a promoter.
 CC Constructs such as this, are useful for producing a desired product by
 CC introduction into a suitable eukaryotic cell, culturing the resultant
 CC eukaryotic cell under conditions so as to express the desired product,
 CC and recovering the desired product from the culture medium. The
 CC constructs are efficient for identifying and selecting for stable
 CC eukaryotic cells expressing high levels of a desired product. They are
 CC suitable for earlier and faster screening of transfected cells. (Updated
 CC on 11-SEP-2003 to standardise OS field)
 XX SQ Sequence 451 AA;

Query Match 100.0%; Score 625; DB 4; Length 451;
 Best Local Similarity 100.0%; Pred. No. 2_9e-49;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVQPGGSLRLSCAVGYSITSGYSWNWIRQAPGKLEWASITYDGSTNY 60
 Db 1 EVOLVESGGGLVQPGGSLRLSCAVGYSITSGYSWNWIRQAPGKLEWASITYDGSTNY 60
 QY 61 NPSVKGRTISRDSSKNTYQLMNSIRADETAVYVCAKGSHYFGHWHFAVWGQG 114
 Db 61 NPSVKGRTISRDSSKNTYQLMNSIRADETAVYVCAKGSHYFGHWHFAVWGQG 114

RESULT 18

AAB76948
 ID AAB76948 standard; protein; 451 AA.
 XX AC AAB76948;
 XX DT 17-APR-2001 (first entry)

XX DE Full length heavy chain sequence of e25 SEQ ID 14.
 XX KW Antibody; antiasthmatic; antiallergic; ophthalmological; dermatological;
 KW antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis;
 KW conjunctivitis; eczema; urticaria; food allergy.
 XX OS Synthetic.
 XX PN US6172213-B1.
 XX PD 09-JAN-2001.
 XX PF 30-JUN-1998; 98US-00109207.
 XX PR 02-JUL-1997; 97US-0051554P.
 XX PA (GERTH) GENENTECH INC.
 XX PT Lowman HB, Presta LG, Jardieu PM, Lowe J;
 XX DR WPI; 2001-122353/13.
 XX PT New nucleic acid encoding anti-immunoglobulin E antibody with improved
 PT properties, produced by substituting aspartyl residues in unimproved
 PT immunoglobulin E prone to isomerization by other residues by affinity
 PT maturation with phage display.

PT immunoglobulin E prone to isomerization by other residues by affinity
 PT maturation with phage display.
 XX DR WPI; 2001-138352/14.
 XX PS Disclosure; Fig 12, 87pp; English.
 XX CC This invention relates to a nucleotide sequence encoding an antibody with
 CC improved anti-IGE antibody activity. The antibody has improved action due
 CC to a process comprising: a) identifying aspartyl residues prone to
 CC isomerization in unimproved anti-IGE (immunoglobulin E) antibody; b)
 CC substituting alternative residues to create candidate molecules; and c)
 CC selecting those candidate molecules which display affinity against the
 CC target molecule. Use of the antibody results in antiasthmatic;
 CC antiallergic; ophthalmological and antiinflammatory
 CC activity. The antibodies are useful for treating IGE-mediated disorders
 CC such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and
 CC food allergies. The mutant antibodies produced by the above mentioned
 CC nucleic acids may also be used as affinity purification agents and in
 CC diagnostic assays for detecting the expression of an antigen of interest
 CC in specific cell, tissues or serum. Amino acid sequences AAB6936,
 CC AAB6960 represent fragments of anti-IGE antibodies of the invention.
 CC Polynucleotide sequence AAB6923 represents an expression plasmid used in
 CC the course of the invention, and oligonucleotides AAB6924, AAB69271 are
 CC used in the generation of affinity improved anti-IGE antibodies
 XX SQ Sequence 451 AA;

Query Match 100.0%; Score 625; DB 4; Length 451;
 Best Local Similarity 100.0%; Pred. No. 2_9e-49;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVQPGGSLRLSCAVGYSITSGYSWNWIRQAPGKLEWASITYDGSTNY 60
 Db 1 EVOLVESGGGLVQPGGSLRLSCAVGYSITSGYSWNWIRQAPGKLEWASITYDGSTNY 60
 QY 61 NPSVKGRTISRDSSKNTYQLMNSIRADETAVYVCAKGSHYFGHWHFAVWGQG 114
 Db 61 NPSVKGRTISRDSSKNTYQLMNSIRADETAVYVCAKGSHYFGHWHFAVWGQG 114

RESULT 19

AAB76950
 ID AAB76950 standard; protein; 451 AA.
 XX AC AAB76950;
 XX DT 17-APR-2001 (first entry)

XX DE Full length heavy chain sequence of e26 SEQ ID 16.
 XX KW Antibody; antiasthmatic; antiallergic; ophthalmological; dermatological;
 KW antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis;
 KW conjunctivitis; eczema; urticaria; food allergy.
 XX OS Synthetic.
 XX PN US6172213-B1.
 XX PD 09-JAN-2001.
 XX PF 30-JUN-1998; 98US-00109207.
 XX PR 02-JUL-1997; 97US-0051554P.
 XX PA (GERTH) GENENTECH INC.
 XX PT Lowman HB, Presta LG, Jardieu PM, Lowe J;
 XX DR WPI; 2001-122353/13.
 XX PT New nucleic acid encoding anti-immunoglobulin E antibody with improved
 PT properties, produced by substituting aspartyl residues in unimproved
 PT immunoglobulin E prone to isomerization by other residues by affinity
 PT maturation with phage display.

XX
PS Claim 2; Fig 12; 87pp; English.
XX
CC This invention relates to a nucleotide sequence encoding an antibody with
CC improved anti-IgE antibody activity. The antibody has improved action due
CC to a process comprising, a) identifying aspartyl residues prone to
CC isomerisation in unimproved anti-IgE (immunoglobulin E) antibody; b)
CC substituting alternative residues to create candidate molecules, and c)
CC selecting those candidate molecules which display affinity against the
CC target molecule. Use of the antibody results in antiasthmatic,
CC anti-allergic; ophthalmological; dermatological and anti-inflammatory
CC activity. The antibodies are useful for treating IgE-mediated disorders
CC such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and
CC food allergies. The mutant antibodies produced by the above mentioned
CC nucleic acids may also be used as affinity purification agents and in
CC diagnostic assays for detecting the expression of an antigen of interest
CC in specific cell, tissues or serum. Amino acid sequences AAB6936-
CC AAB6936 represent fragments of anti-IgE antibodies of the invention.
CC Polynucleotide sequence AAN69253 represents an expression plasmid used in
CC the course of the invention, and oligonucleotides AAF69354 - AAF69271 are
CC used in the generation of affinity improved anti-IgE antibodies
XX
SQ Sequence 451 AA;

Query Match 100.0%; Score 625; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 2. 9e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 EVOLVESCGGLVQPGGSLRLSCAVSGSITSYGYSWNNWIRQAPGKGLEWAVASITYDGSTNY 60
Db 1 EVOLVESCGGLVQPGGSLRLSCAVSGSITSYGYSWNNWIRQAPGKGLEWAVASITYDGSTNY 60
Qy 61 NPSVKGRTISRDSDKNTPYLQMSLRAEDTAVYTCARGSHYFGHMHFAWNGQ 114
Db 61 NPSVKGRTISRDSDKNTPYLQMSLRAEDTAVYTCARGSHYFGHMHFAWNGQ 114

RESULT 20
ADN07037
ID ADN07037 standard; protein; 451 AA.
AC ADN07037;
XX
DT 01-JUL-2004 (first entry)
XX
DE Anti-IgE antibody e25 full length variable light chain (VH).
XX
KW anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder;
KW therapy; atopic allergy; anaphylactic hypersensitivity; asthma;
KW allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy;
KW variable heavy chain; VH.
XX
OS Unidentified.
XX
PN US6723833-B1.
XX
PD 20-APR-2004.
XX
PF 17-NOV-2000; 2000US-00716028.
XX
PR 02-JUL-1997; 97US-0051554P.
RR 30-JUN-1998; 98US-00109207.
XX
PA (GENTECH) GENENTECH INC.
XX
PI Lowman HB, Presta LG, Jardieu PM, Lowe J;
XX
PR WPI; 2004-326922/30.
XX
PR New composition of an improved anti-IgE antibody or IgE binding fragment,
PR useful for treating IgE-mediated diseases, e.g. atopic allergy, asthma,
PR conjunctivitis, eczema, urticaria or food allergies.
XX
RS disclosure; SEQ ID NO 14; 87pp; English.
XX
CC The invention relates to therapeutic compositions comprising anti-IgE
CC antibody or IgE binding fragment in combination with an adjunct
CC immunosuppressive agent. The composition is useful for treating IgE-
CC mediated disorders. The disorders include atopic allergy, associated with
CC anaphylactic hypersensitivity and asthma, allergic rhinitis and
CC conjunctivitis, eczema, urticaria and food allergies. The present
CC sequence is an anti-IgE antibody variable heavy chain domain (VH).
XX
SQ Sequence 451 AA;

PS Claim 1; SEQ ID NO 16; 89pp; English.
XX
CC The invention relates to therapeutic compositions comprising anti-IgE
CC antibody or IgE binding fragment in combination with an adjunct
CC immunosuppressive agent. The composition is useful for treating IgE-
CC mediated disorders. The disorders include atopic allergy, associated with
CC anaphylactic hypersensitivity and asthma, allergic rhinitis and
CC conjunctivitis, eczema, urticaria and food allergies. The present
CC sequence is an anti-IgE antibody variable heavy chain domain (VH).
XX
Query Match 100.0%; Score 625; DB 8; Length 451;
Best Local Similarity 100.0%; Pred. No. 2. 9e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 EVOLVESCGGLVQPGGSLRLSCAVSGSITSYGYSWNNWIRQAPGKGLEWAVASITYDGSTNY 60
Db 1 EVOLVESCGGLVQPGGSLRLSCAVSGSITSYGYSWNNWIRQAPGKGLEWAVASITYDGSTNY 60
Qy 61 NPSVKGRTISRDSDKNTPYLQMSLRAEDTAVYTCARGSHYFGHMHFAWNGQ 114
Db 61 NPSVKGRTISRDSDKNTPYLQMSLRAEDTAVYTCARGSHYFGHMHFAWNGQ 114

RESULT 21
ADN07035
ID ADN07035 standard; protein; 451 AA.
AC ADN07035;
XX
DT 01-JUL-2004 (first entry)
XX
DE Anti-IgE antibody e25 full length variable light chain (VH).
XX
KW anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder;
KW therapy; atopic allergy; anaphylactic hypersensitivity; asthma;
KW allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy;
KW variable heavy chain; VH.
XX
OS Unidentified.
XX
PN US6723833-B1.
XX
PD 20-APR-2004.
XX
PF 17-NOV-2000; 2000US-00716028.
XX
PR 02-JUL-1997; 97US-0051554P.
RR 30-JUN-1998; 98US-00109207.
XX
PA (GENTECH) GENENTECH INC.
XX
PI Lowman HB, Presta LG, Jardieu PM, Lowe J;
XX
PR WPI; 2004-326922/30.
XX
PR New composition of an improved anti-IgE antibody or IgE binding fragment,
PR useful for treating IgE-mediated diseases, e.g. atopic allergy, asthma,
PR conjunctivitis, eczema, urticaria or food allergies.
XX
RS disclosure; SEQ ID NO 14; 87pp; English.
XX
CC The invention relates to therapeutic compositions comprising anti-IgE
CC antibody or IgE binding fragment in combination with an adjunct
CC immunosuppressive agent. The composition is useful for treating IgE-
CC mediated disorders. The disorders include atopic allergy, associated with
CC anaphylactic hypersensitivity and asthma, allergic rhinitis and
CC conjunctivitis, eczema, urticaria and food allergies. The present
CC sequence is an anti-IgE antibody variable heavy chain domain (VH).
XX
SQ Sequence 451 AA;

Query Match 100.0%; Score 625; DB 8; Length 451;
 Best Local Similarity 100.0%; Pred. No. 2. 9e-49;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESCGGLVOPGGSLRLSCAVSGYSITSGYSWNIROAQPKGLEWASTYDGSTNY 60
 1 EVOLVESCGGLVOPGGSLRLSCAVSGYSITSGYSWNIROAQPKGLEWASTYDGSTNY 60

Db 61 NPSVKGRITISRODSKNTFYLQNSLRAEDTAVYICARGSHYFGHWHFPAVWGOG 114
 61 NPSVKGRITISRODSKNTFYLQNSLRAEDTAVYICARGSHYFGHWHFPAVWGOG 114

QY 61 NPSVKGRITISRODSKNTFYLQNSLRAEDTAVYICARGSHYFGHWHFPAVWGOG 114
 61 NPSVKGRITISRODSKNTFYLQNSLRAEDTAVYICARGSHYFGHWHFPAVWGOG 114

Db 21-OCT-2004 (first entry)

XX DE Anti-IgE antibody E25 heavy chain protein SEQ ID NO:15.

XX DE Anti-IgE antibody E25 heavy chain protein SEQ ID NO:15.

XX KW antibody; antigen binding fragment; cell culture; variable domain;
 KW modified framework region; hypervariable region; cyrostatic;
 KW antiinflammatory; antiangiogenic; immunomodulatory; antibody therapy;
 KW tumour; inflammatory disorder; angiogenic disorder;
 KW immunological disorder; anti-IgE antibody;
 KW anti immunoglobulin E antibody; heavy chain.

XX OS Homo sapiens.

OS Synthetic.

XX OS Synthetic.

XX PN WO2004065417-A2.

XX PD 05-AUG-2004.

XX PF 23-JAN-2004; 2004WO-US001844.

XX PR 23-JAN-2003; 2003US-0442484P.

XX PA (GETH) GENENTECH INC.

XX PT Simmons L;

XX PT WPI; 2004-662149/54.

DR N-PSDB; ADQ90716.

XX PT Producing an antibody or antigen binding fragment in high yield in a cell culture, comprises expressing a variable domain with a modified framework region in a host cell.

XX PS Example 3; SEQ ID NO 21; 161pp; English.

CC The present invention describes a method for producing an antibody or antigen binding fragment in high yield in a cell culture. The method comprises expressing a variable domain of the antibody or antigen binding fragment comprising a modified framework region (FR) in a host cell, and recovering the antibody or antigen binding fragment variable domain comprising the modified framework from the host cell. The modified FR in the method described above has a substitution of at least one amino acid position with a different amino acid, where the different amino acid is the amino acid found at the corresponding FR position of a human subgroup (HVR1) and/or HVR2 amino acid sequence with the most sequence identity with a corresponding HVR1 and/or HVR2 sequence of the variable domain. The antibody or antigen binding fragment variable domain comprises the modified FR that has improved yield in cell culture compared to an unmodified antibody or antigen-binding fragment. The antibody and antigen binding fragment have cyrostatic, antiinflammatory, antiangiogenic and immunomodulatory activities, and can be used in antibody therapy. The methods and compositions of the present invention are useful for producing antibodies or antigen binding fragments in cell culture, in

CC particular for improving the yield of recombinant antibodies or antigen binding fragments in cell culture. The antibodies of the invention can be used to diagnose, treat, inhibit or prevent e.g. tumours and inflammatory, angiogenic and immunological disorders. The present antibody, which is used in the exemplification of the present invention.

CC Sequence 474 AA;

CC Query Match 100.0%; score 625; DB 8; Length 474;
 CC Best Local Similarity 100.0%; Pred. No. 3. 1e-49;
 CC Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESCGGLVOPGGSLRLSCAVSGYSITSGYSWNIROAQPKGLEWASTYDGSTNY 60
 1 EVOLVESCGGLVOPGGSLRLSCAVSGYSITSGYSWNIROAQPKGLEWASTYDGSTNY 83

Db 61 NPSVKGRITISRODSKNTFYLQNSLRAEDTAVYICARGSHYFGHWHFPAVWGOG 114
 61 NPSVKGRITISRODSKNTFYLQNSLRAEDTAVYICARGSHYFGHWHFPAVWGOG 114

QY 61 NPSVKGRITISRODSKNTFYLQNSLRAEDTAVYICARGSHYFGHWHFPAVWGOG 114
 61 NPSVKGRITISRODSKNTFYLQNSLRAEDTAVYICARGSHYFGHWHFPAVWGOG 137

Db

Search completed: June 3, 2005, 12:46:54
 Job time : 71 secs

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RESULT 2

US-09-109-207C-11

; Sequence 11; Application US/09109207C

; Patent No. 6112213

; GENERAL INFORMATION:

; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe

; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptide

; FILE REFERENCE: P1123R1

; CURRENT FILING DATE: 1998-06-30

; PRIOR APPLICATION NUMBER: US 60/051,554

; PRIOR FILING DATE: 1997-07-03

; NUMBER OF SEQ ID NOS: 44

; SEQ ID NO 11

; LENGTH: 114

; TYPE: PRT

; ORGANISM: Artificial

; NAME/KEY: Artificial

; LOCATION: 1-114

; OTHER INFORMATION: Heavy chain sequence derived from MAE11

RESULT 3
US-09-296-005-11
; Sequence 11; Application US/09296005
; Patent No. 6299597
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123C1
; CURRENT APPLICATION NUMBER: US/09/296,005
; CURRENT FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: US 08/687,352
; EARLIER FILING DATE: 1997-07-02
; NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 11
; LENGTH: 114
; TYPE: PRT
; ORGANISM: Artificial

Query Match 100.0%; Score 623; DB 3; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-54; Mismatches 0; Indels 0; Gaps 0;

Query Match 100.0%; Score 623; DB 4; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-54; Mismatches 0; Indels 0; Gaps 0;

RESULT 4

US-09-20-171-11

; Sequence 11; Application US/09920171

; Patent No. 652735

; GENERAL INFORMATION:

; APPLICANT: Presta, Leonard G.

; APPLICANT: Jardieu, Paula M.

; APPLICANT: Lowe, John

; TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)

; FILE REFERENCE: P1123C1US

; CURRENT APPLICATION NUMBER: US/09/920,171

; PRIOR APPLICATION NUMBER: US 08/887,352

; PRIOR FILING DATE: 1997-07-02

; PRIOR APPLICATION NUMBER: US 09/296,005

; PRIOR FILING DATE: 1999-04-21

; NUMBER OF SEQ ID NOS: 44

; SEQ ID NO 11

; LENGTH: 114

; TYPE: PRT

; ORGANISM: Artificial Sequence

; FEATURE: OTHER INFORMATION: Heavy chain sequence derived from MAE11

RESULT 5
US-09-716-028-11
; Sequence 11; Application US/09716028
; Patent No. 6723833
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/716,028
; CURRENT FILING DATE: 2000-11-17
; PRIOR APPLICATION NUMBER: US 09/109,207
; PRIOR FILING DATE: 1998-06-30
; PRIOR APPLICATION NUMBER: US 60/051,554
; PRIOR FILING DATE: 1997-07-03
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 11
; LENGTH: 114
; TYPE: PRT
; ORGANISM: Artificial

Query Match 100.0%; Score 623; DB 3; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-54; Mismatches 0; Indels 0; Gaps 0;

Query Match 100.0%; Score 623; DB 4; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-54; Mismatches 0; Indels 0; Gaps 0;

RESULT 6
US-09-296-005-11
; Sequence 11; Application US/09296005
; Patent No. 6299597
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123C1
; CURRENT APPLICATION NUMBER: US/09/296,005
; CURRENT FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: US 08/687,352
; EARLIER FILING DATE: 1997-07-02
; NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 11
; LENGTH: 114
; TYPE: PRT
; ORGANISM: Artificial

Query Match 100.0%; Score 623; DB 3; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-54; Mismatches 0; Indels 0; Gaps 0;

Query Match 100.0%; Score 623; DB 4; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-54; Mismatches 0; Indels 0; Gaps 0;

NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 21
; LENGTH: 229
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-229
; OTHER INFORMATION: Heavy chain F(ab) derived from MAB11
; US-09-296-005-21

Query Match 100.0%; Score 623; DB 3; Length 229;
Best Local Similarity 100.0%; Pred. No. 2.4e-54; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLVPGGSLRLSCAVGYSITSGYSWNNWIRQAPGKGLEWAVSIKYSGETKY 60
Db 1 EVOLVESGGGLVPGGSLRLSCAVGYSITSGYSWNNWIRQAPGKGLEWAVSIKYSGETKY 60

Qy 61 NPSVKGRTISRDSDSKNTFYLQNSLRAEDTAVYCARSHYFGHWFHFAVWQCG 114
Db 61 NPSVKGRTISRDSDSKNTFYLQNSLRAEDTAVYCARSHYFGHWFHFAVWQCG 114

RESULT 10
US-09-920-171-21
; Sequence 21, Application US/09920171
; Patent No. 668235
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-1gE Antibodies (as amended)
; FILE REFERENCE: P1123C01S
; CURRENT APPLICATION NUMBER: US/09/920,171
; CURRENT FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 21
; LENGTH: 229
; TYPE: PRT
; FEATURE:
; OTHER INFORMATION: Heavy chain F(ab) derived from MAB11
; US-09-920-171-21

Query Match 100.0%; Score 623; DB 4; Length 229;
Best Local Similarity 100.0%; Pred. No. 2.4e-54; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLVPGGSLRLSCAVGYSITSGYSWNNWIRQAPGKGLEWAVSIKYSGETKY 60
Db 1 EVOLVESGGGLVPGGSLRLSCAVGYSITSGYSWNNWIRQAPGKGLEWAVSIKYSGETKY 60

Qy 61 NPSVKGRTISRDSDSKNTFYLQNSLRAEDTAVYCARSHYFGHWFHFAVWQCG 114
Db 61 NPSVKGRTISRDSDSKNTFYLQNSLRAEDTAVYCARSHYFGHWFHFAVWQCG 114

RESULT 11
US-09-716-028-21
; Sequence 21, Application US/09716028
; GENERAL INFORMATION:
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/716,028
; CURRENT FILING DATE: 2000-11-17

Query Match 100.0%; Score 623; DB 4; Length 229;
Best Local Similarity 100.0%; Pred. No. 2.4e-54; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLVPGGSLRLSCAVGYSITSGYSWNNWIRQAPGKGLEWAVSIKYSGETKY 60
Db 1 EVOLVESGGGLVPGGSLRLSCAVGYSITSGYSWNNWIRQAPGKGLEWAVSIKYSGETKY 60

Qy 61 NPSVKGRTISRDSDSKNTFYLQNSLRAEDTAVYCARSHYFGHWFHFAVWQCG 114
Db 61 NPSVKGRTISRDSDSKNTFYLQNSLRAEDTAVYCARSHYFGHWFHFAVWQCG 114

RESULT 12
US-10-113-996-21
; Sequence 21, Application US/10113996
; Patent No. 6761889
; GENERAL INFORMATION:
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-1gE Antibodies
; FILE REFERENCE: P1123C01S
; CURRENT APPLICATION NUMBER: US/10/113,996
; CURRENT FILING DATE: 2002-04-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: US 09/920,171
; PRIOR FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 21
; LENGTH: 229
; TYPE: PRT
; FEATURE:
; OTHER INFORMATION: Heavy chain F(ab) derived from MAB11
; US-10-113-996-21

Query Match 100.0%; Score 623; DB 4; Length 229;
Best Local Similarity 100.0%; Pred. No. 2.4e-54; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLVPGGSLRLSCAVGYSITSGYSWNNWIRQAPGKGLEWAVSIKYSGETKY 60
Db 1 EVOLVESGGGLVPGGSLRLSCAVGYSITSGYSWNNWIRQAPGKGLEWAVSIKYSGETKY 60

Qy 61 NPSVKGRTISRDSDSKNTFYLQNSLRAEDTAVYCARSHYFGHWFHFAVWQCG 114
Db 61 NPSVKGRTISRDSDSKNTFYLQNSLRAEDTAVYCARSHYFGHWFHFAVWQCG 114

RESULT 13
US-08-887-332B-26
; Sequence 26, Application US/08887352B
; Patent No. 5994511

GENERAL INFORMATION:
 APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
 TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
 NUMBER OF SEQUENCES: 26
 CORRESPONDENCE ADDRESS:
 ADDRESSEE: Genentech, Inc.
 STREET: 1 DNA Way
 CITY: South San Francisco
 STATE: California
 COUNTRY: USA
 ZIP: 94080

COMPUTER READABLE FORM:
 MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk

COMPUTER: IBM PC compatible
 OPERATING SYSTEM: PC-DOS/MS-DOS
 SOFTWARE: Winpatin (Genentech)

CURRENT APPLICATION DATA:
 APPLICATION NUMBER: US/08/887,352B
 FILING DATE: 03-Jul-1997
 CLASSIFICATION: 510
 ATTORNEY/AGENT INFORMATION:
 NAME: Svoboda, Craig G.
 REGISTRATION NUMBER: 39,044

REFERENCE/DOCKET NUMBER: P1123
 TELECOMMUNICATION INFORMATION:
 TELEPHONE: 650/952-1489
 TELEFAX: 650/952-9881

INFORMATION FOR SEQ ID NO: 26:
 INFORMATION CHARACTERISTICS:
 LENGTH: 233 amino acids
 TYPE: Amino Acid
 TOPOLOGY: Linear

US-08-887-352B-26

Query Match 100.0%; Score 623; DB 2; Length 233;
 Best Local Similarity 100.0%; Pred. No. 2, 4e-54; Mismatches 0; Indels 0; Gaps 0;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVQPGGSLRLSCAVSGKISITGSYSWNWIRQAPKGLEWAVSIKYSGETK 60
 Db 1 EVOLVESGGGLVQPGGSLRLSCAVSGKISITGSYSWNWIRQAPKGLEWAVSIKYSGETK 60
 QY 61 NPSVKGRTISRDSDKVFTYQLYQNSLRAEDTAVYCCARGSHYFGHMRFAWMGCG 114
 Db 61 NPSVKGRTISRDSDKVFTYQLYQNSLRAEDTAVYCCARGSHYFGHMRFAWMGCG 114

RESULT 14

US-09-109-207C-26
 Sequence 26 Application US/09109207C

Patent No. 6172213
 GENERAL INFORMATION:
 APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe

TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptide
 FILE REFERENCE: P1123R1
 CURRENT FILING DATE: 1998-06-30
 PRIOR APPLICATION NUMBER: US 60/051,554
 PRIOR FILING DATE: 1997-07-03
 NUMBER OF SEQ ID NOS: 44
 SEQ ID NO 26
 LENGTH: 233

TYPE: PRT
 ORGANISM: Artificial
 FEATURE:
 NAME/KEY: Artificial
 LOCATION: 1-233
 OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAE11
 US-09-109-207C-26

Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Sequence 26, Application US/09296005
 Patent No. 6290957
 GENERAL INFORMATION:
 APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
 TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
 FILE REFERENCE: P1123CIR
 CURRENT APPLICATION NUMBER: US/09/296,005
 CURRENT FILING DATE: 1999-04-21
 PRIOR APPLICATION NUMBER: US 08/887,352
 EARLIER FILING DATE: 1997-07-02
 NUMBER OF SEQ ID NOS: 26
 SEQ ID NO 26
 LENGTH: 233
 TYPE: PRT
 ORGANISM: Artificial
 FEATURE:
 NAME/KEY: Artificial
 LOCATION: 1-233
 OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAE11
 US-09-296-005-26

Query Match 100.0%; Score 623; DB 3; Length 233;
 Best Local Similarity 100.0%; Pred. No. 2, 4e-54; Mismatches 0; Indels 0; Gaps 0;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVQPGGSLRLSCAVSGKISITGSYSWNWIRQAPKGLEWAVSIKYSGETK 60
 Db 1 EVOLVESGGGLVQPGGSLRLSCAVSGKISITGSYSWNWIRQAPKGLEWAVSIKYSGETK 60
 QY 61 NPSVKGRTISRDSDKVFTYQLYQNSLRAEDTAVYCCARGSHYFGHMRFAWMGCG 114
 Db 61 NPSVKGRTISRDSDKVFTYQLYQNSLRAEDTAVYCCARGSHYFGHMRFAWMGCG 114

RESULT 16

US-09-920-171-26
 Sequence 26 Application US/09920171

Patent No. 6682735
 GENERAL INFORMATION:

APPLICANT: Lowman, Henry B.
 APPLICANT: Presta, Leonard G.
 APPLICANT: Jardieu, Paula M.
 APPLICANT: Lowe, John

TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)

FILE REFERENCE: P1123C2S
 CURRENT APPLICATION NUMBER: US/09/920,171
 CURRENT FILING DATE: 2001-08-01
 PRIOR APPLICATION NUMBER: US 08/887,352
 PRIOR FILING DATE: 1997-07-02
 PRIOR APPLICATION NUMBER: US 09/296,005
 PRIOR FILING DATE: 1999-04-21
 NUMBER OF SEQ ID NOS: 44
 SEQ ID NO 26
 LENGTH: 233

TYPE: PRT
 ORGANISM: Artificial Sequence
 FEATURE:
 NAME/KEY: Artificial
 LOCATION: 1-233
 OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAE11
 US-09-920-171-26

Query Match 100.0%; Score 623; DB 3; Length 233;
 Best Local Similarity 100.0%; Pred. No. 2, 4e-54;

Query Match 100.0%; Score 623; DB 4; Length 233;
 Best Local Similarity 100.0%; Pred. No. 2.4e-54; Indels 0; Gaps 0;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLVQPGGSLRLSCAVSGYSITSGYSSWNWIRQAQPKGLEWVASYKSGETKY 60
 Db 1 EVOLVESGGGLVQPGGSLRLSCAVSGYSITSGYSSWNWIRQAQPKGLEWVASYKSGETKY 60

Query Match 100.0%; Score 623; DB 4; Length 233;
 Best Local Similarity 100.0%; Pred. No. 2.4e-54; Indels 0; Gaps 0;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 61 NPSVKGRTISRDSDKTFYQFLQNSLRAEDTAVYCAARGSHYFGHWHFIAVNGQ 114
 Db 61 NPSVKGRTISRDSDKTFYQFLQNSLRAEDTAVYCAARGSHYFGHWHFIAVNGQ 114

RESULT 17
 US-09-716-028-26 Application US/09716028

; Sequence 26, Application US/09716028

; GENERAL INFORMATION:

; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
 TITLE: INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
 FILE REFERENCE: P1123RL

; CURRENT APPLICATION NUMBER: US/09/716, 028

; CURRENT FILING DATE: 2000-11-17

; PRIOR APPLICATION NUMBER: US 09/109, 207

; PRIOR FILING DATE: 1998-06-30

; PRIOR APPLICATION NUMBER: US 60/051, 554

; PRIOR FILING DATE: 1997-07-03

; NUMBER OF SEQ ID NOS: 44

; SEQ ID NO 26

; LENGTH: 233

; TYPE: PRY

; ORGANISM: Artificial

; FEATURE: Artificial

; NAME/KEY: Artificial

; LOCATION: 1-233

; OTHER INFORMATION: Heavy chain F(ab)'2 sequence derived from MAE11
 US-09-716-028-26

Query Match 100.0%; Score 623; DB 4; Length 233;
 Best Local Similarity 100.0%; Pred. No. 2.4e-54; Indels 0; Mismatches 0; Gaps 0;
 Matches 114; Conservative 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLVQPGGSLRLSCAVSGYSITSGYSSWNWIRQAQPKGLEWVASYKSGETKY 60
 Db 1 EVOLVESGGGLVQPGGSLRLSCAVSGYSITSGYSSWNWIRQAQPKGLEWVASYKSGETKY 60

Query Match 100.0%; Score 623; DB 4; Length 233;
 Best Local Similarity 100.0%; Pred. No. 2.4e-54; Indels 0; Gaps 0;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 61 NPSVKGRTISRDSDKTFYQFLQNSLRAEDTAVYCAARGSHYFGHWHFIAVNGQ 114
 Db 61 NPSVKGRTISRDSDKTFYQFLQNSLRAEDTAVYCAARGSHYFGHWHFIAVNGQ 114

RESULT 19
 US-08-887-352B-23 Application US/08887352B

; Sequence 23, Application US/08887352B

; GENERAL INFORMATION:

; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
 TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
 TITLE OF INVENTION: Improving Polypeptides

; NUMBER OF SEQUENCES: 26

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Genentech, Inc.
 STREET: 1 DNA Way
 CITY: South San Francisco
 STATE: California
 COUNTRY: USA

; ZIP: 94080

; COMPUTER READABLE FORM:

; COMPUTER TYPE: 3.5 inch, 1.44 Mb floppy disk

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: Winedit (Genentech)

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/887, 352B
 FILING DATE: 03-JUL-1997
 CLASSIFICATION: 530

; ATTORNEY/AGENT INFORMATION:

; NAME: Svoboda, Craig G.
 REGISTRATION NUMBER: 39, 044

; REFERENCE/DOCKET NUMBER: P1123

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: 650/222-1489
 TELEFAX: 650/952-9881

; INFORMATION FOR SEQ ID NO: 23:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 248 amino acids
 TYPE: Amino Acid
 TOPOLOGY: Linear

; US-08-887-352B-23

Query Match 100.0%; Score 623; DB 2; Length 248;
 Best Local Similarity 100.0%; Pred. No. 2.6e-54; Indels 0; Gaps 0;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 EVOLVESGGGLVQPGGSLRLSCAVSGYSITSGYSSWNWIRQAQPKGLEWVASYKSGETKY 60
 Db 1 EVOLVESGGGLVQPGGSLRLSCAVSGYSITSGYSSWNWIRQAQPKGLEWVASYKSGETKY 60

Query Match 100.0%; Score 623; DB 4; Length 233;
 Best Local Similarity 100.0%; Pred. No. 2.4e-54; Indels 0; Gaps 0;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 61 NPSVKGRTISRDSDKTFYQFLQNSLRAEDTAVYCAARGSHYFGHWHFIAVNGQ 114
 Db 61 NPSVKGRTISRDSDKTFYQFLQNSLRAEDTAVYCAARGSHYFGHWHFIAVNGQ 114

RESULT 20
 US-09-109-207C-23

Sequence 23, Application US/09109207C
 Patent No. 6172213
 GENERAL INFORMATION:
 APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
 TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
 CURRENT APPLICATION NUMBER: US/09/109,207C
 CURRENT FILING DATE: 1998-06-30
 PRIOR APPLICATION NUMBER: US 60/051,554
 PRIOR FILING DATE: 1997-07-03
 NUMBER OF SEQ ID NOS: 44
 SEQ ID NO: 23
 LENGTH: 248
 TYPE: PRT
 ORGANISM: Artificial
 FEATURE:
 NAME/KEY: Artificial
 LOCATION: 1-248
 OTHER INFORMATION: sFv sequence derived from MAE11
 US-09-109-207C-23

Query Match 100.0%; Score 623; DB 3; Length 248;
 Best Local Similarity 100.0%; Pred. No. 2.6e-54; Mismatches 0; Indels 0; Gaps 0;
 Matches 114; Conservative

QY 1 EVQVESGGGLVQPGGSLRLSCAVGYSITSGYSWNWIRQAPGKLEWASIKYGETK 60
 Db 1 EVQVESGGGLVQPGGSLRLSCAVGYSITSGYSWNWIRQAPGKLEWASIKYGETK 60

QY 61 NPSVKGRTISRDSSKNTYLOMNSLRAEDTAVVYCARSHYFGHWHFVWGGQ 114
 Db 61 NPSVKGRTISRDSSKNTYLOMNSLRAEDTAVVYCARSHYFGHWHFVWGGQ 114

RESULT 21
 US-09-296-005-23
 Sequence 23, Application US/09296005
 Patent No. 6290557
 GENERAL INFORMATION:
 APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
 TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
 FILE REFERENCE: P1123C1R
 CURRENT APPLICATION NUMBER: US/09/296,005
 CURRENT FILING DATE: 1999-04-21
 EARLIER APPLICATION NUMBER: US 08/887,352
 EARLIER FILING DATE: 1997-07-02
 NUMBER OF SEQ ID NOS: 26
 SEQ ID NO: 23
 LENGTH: 248
 TYPE: PRT
 ORGANISM: Artificial
 FEATURE:
 NAME/KEY: Artificial
 LOCATION: 1-248
 OTHER INFORMATION: sFv sequence derived from MAE11
 US-09-296-005-23

Query Match 100.0%; Score 623; DB 3; Length 248;
 Best Local Similarity 100.0%; Pred. No. 2.6e-54; Mismatches 0; Indels 0; Gaps 0;
 Matches 114; Conservative

QY 1 EVQVESGGGLVQPGGSLRLSCAVGYSITSGYSWNWIRQAPGKLEWASIKYGETK 60
 Db 1 EVQVESGGGLVQPGGSLRLSCAVGYSITSGYSWNWIRQAPGKLEWASIKYGETK 60

QY 61 NPSVKGRTISRDSSKNTYLOMNSLRAEDTAVVYCARSHYFGHWHFVWGGQ 114
 Db 61 NPSVKGRTISRDSSKNTYLOMNSLRAEDTAVVYCARSHYFGHWHFVWGGQ 114

RESULT 23
 US-09-716-028-23
 Sequence 23, Application US/09716028
 Patent No. 672333
 GENERAL INFORMATION:
 APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
 TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
 FILE REFERENCE: P1123C1R
 CURRENT APPLICATION NUMBER: US/09/716,028
 CURRENT FILING DATE: 2000-11-17
 PRIOR APPLICATION NUMBER: US 09/109,207
 PRIOR FILING DATE: 1998-06-30
 PRIOR APPLICATION NUMBER: US 60/051,554
 PRIOR FILING DATE: 1997-07-03
 NUMBER OF SEQ ID NOS: 44
 SEQ ID NO: 23
 LENGTH: 248
 TYPE: PRT
 ORGANISM: Artificial
 FEATURE:
 NAME/KEY: Artificial
 LOCATION: 1-248
 OTHER INFORMATION: sFv sequence derived from MAE11
 US-09-716-028-23

Query Match 100.0%; Score 623; DB 3; Length 248;
 Best Local Similarity 100.0%; Pred. No. 2.6e-54; Mismatches 0; Indels 0; Gaps 0;
 Matches 114; Conservative

QY 1 EVQVESGGGLVQPGGSLRLSCAVGYSITSGYSWNWIRQAPGKLEWASIKYGETK 60
 Db 1 EVQVESGGGLVQPGGSLRLSCAVGYSITSGYSWNWIRQAPGKLEWASIKYGETK 60

QY 61 NPSVKGRTISRDSSKNTYLOMNSLRAEDTAVVYCARSHYFGHWHFVWGGQ 114
 Db 61 NPSVKGRTISRDSSKNTYLOMNSLRAEDTAVVYCARSHYFGHWHFVWGGQ 114

RESULT 22
 US-09-920-171-23
 Sequence 23, Application US/09920171

RESULT 24
 US-10-113-996-23
 ; Sequence 23, Application US/10113996
 ; Patent No. 671889
 ; GENERAL INFORMATION:
 ; APPLICANT: Lowman, Leonard B.
 ; APPLICANT: Presta, Leonard G.
 ; APPLICANT: Jardieu, Paula M.
 ; APPLICANT: Lowe, John
 ; TITLE OF INVENTION: Improved Anti-IgE Antibodies
 ; FILE REFERENCE: P1123CJS
 ; CURRENT APPLICATION NUMBER: US/10/113,996
 ; CURRENT FILING DATE: 2002-04-01
 ; PRIOR APPLICATION NUMBER: US 08/887,352
 ; PRIOR FILING DATE: 1997-07-02
 ; PRIOR APPLICATION NUMBER: US 09/286,005
 ; PRIOR FILING DATE: 1999-04-21
 ; PRIOR APPLICATION NUMBER: US 09/920,171
 ; PRIOR FILING DATE: 2001-08-01
 ; NUMBER OF SEQ ID NOS: 44
 ; SEQ ID NO 23
 ; LENGTH: 248
 ; TYPE: PRT
 ; ORGANISM: Artificial Sequence
 ; FEATURE:
 ; OTHER INFORMATION: Sfv sequence derived from MAE11
 US-10-113-996-23

Query Match 100.0%; Score 623; DB 4; Length 248;
 Best Local Similarity 100.0%; Pred. No. 2.6e-54; Matches 114; Indels 0; Gaps 0;
 Mismatches 0; DB 114

Qy 1 EVOLVESGGGLVQPGGSLRLSCAVSGSITGSYSWNWIRQAPGKLEWASIKYGETK 60
 Db 1 EVOLVESGGGLVQPGGSLRLSCAVSGSITGSYSWNWIRQAPGKLEWASIKYGETK 60

Qy 61 NPSVKGRTISRDSSKNTYFLQMSRLRAEDTAVYCARSHYFGHWFIAVNGQ 114
 Db 61 NPSVKGRTISRDSSKNTYFLQMSRLRAEDTAVYCARSHYFGHWFIAVNGQ 114

RESULT 25
 US-08-887-352B-18
 ; Sequence 18, Application US/08887352B
 ; Patent No. 5919511
 ; GENERAL INFORMATION:
 ; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
 ; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
 ; NUMBER OF SEQUENCES: 26
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Genentech, Inc.
 ; STREET: 1 DNA Way
 ; CITY: South San Francisco
 ; STATE: California
 ; COUNTRY: USA
 ; ZIP: 94100
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: WinPatin (Genentech)
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/887,352B
 ; FILING DATE: 03-JUL-1997
 ; CLASSIFICATION: 530
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Svoboda, Craig G.
 ; REFERENCE NUMBER: 39,044
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 650/225-1489

RESULT 26
 US-09-109-207C-18
 ; Sequence 18, Application US/09109207C
 ; Patent No. 6172213
 ; GENERAL INFORMATION:
 ; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
 ; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
 ; CURRENT APPLICATION NUMBER: US/09/1109, 207C
 ; CURRENT FILING DATE: 1998-06-30
 ; PRIOR APPLICATION NUMBER: US 60/051,554
 ; NUMBER OF SEQ ID NOS: 44
 ; SEQ ID NO 18
 ; LENGTH: 451
 ; TYPE: PRT
 ; ORGANISM: Artificial
 ; FEATURE:
 ; NAME/KEY: Artificial
 ; LOCATION: 1-451
 ; OTHER INFORMATION: Heavy chain sequence derived from MAE11
 US-09-109-207C-18

Query Match 100.0%; Score 623; DB 3; Length 451;
 Best Local Similarity 100.0%; Pred. No. 5.1e-54; Matches 114; Indels 0; Gaps 0;
 Mismatches 0; DB 114

Qy 1 EVOLVESGGGLVQPGGSLRLSCAVSGSITGSYSWNWIRQAPGKLEWASIKYGETK 60
 Db 1 EVOLVESGGGLVQPGGSLRLSCAVSGSITGSYSWNWIRQAPGKLEWASIKYGETK 60

Qy 61 NPSVKGRTISRDSSKNTYFLQMSRLRAEDTAVYCARSHYFGHWFIAVNGQ 114
 Db 61 NPSVKGRTISRDSSKNTYFLQMSRLRAEDTAVYCARSHYFGHWFIAVNGQ 114

RESULT 27
 US-09-202-505-2
 ; Sequence 2, Application US/09282505A
 ; Patent No. 619551
 ; GENERAL INFORMATION:
 ; APPLICANT: Esche Ernadeuse Idusogie et al.
 ; TITLE OF INVENTION: Polypeptide Variant
 ; FILE REFERENCE: P1166R1
 ; CURRENT APPLICATION NUMBER: US/09/282,505A
 ; CURRENT FILING DATE: 1999-03-31
 ; NUMBER OF SEQ ID NOS: 2
 ; SEQ ID NO 2
 ; LENGTH: 451
 ; TYPE: PRT
 ; ORGANISM: Artificial Sequence
 ; FEATURE:

```

; NAME/KEY: Artificial Sequence
; LOCATION: 1-451
; OTHER INFORMATION: Sequence is completely synthesized
; Patent No. 6194551
; US-09-282-505-2

Query Match 100.0%; Score 623; DB 3; Length 451;
Best Local Similarity 100.0%; Pred. No. 5.1e-54; Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVQPGGSLRLSCAVSGYITSGSWSNNWIRQAPGKLEWAVSIKYSGETK 60
Db 1 EVOLVESGGGLVQPGGSLRLSCAVSGYITSGSWSNNWIRQAPGKLEWAVSIKYSGETK 60
QY 61 NPSYKGRITISRDSKNTYLOMNSLRAEDTAVVYCAAGSHYFGHWHFAVWGOG 114
Db 61 NPSYKGRITISRDSKNTYLOMNSLRAEDTAVVYCAAGSHYFGHWHFAVWGOG 114
QY 61 NPSYKGRITISRDSKNTYLOMNSLRAEDTAVVYCAAGSHYFGHWHFAVWGOG 114
Db 61 NPSYKGRITISRDSKNTYLOMNSLRAEDTAVVYCAAGSHYFGHWHFAVWGOG 114

RESULT 28
US-09-054-255-2
; Sequence 2, Application US/09054255
; Patent No. 6242195
; GENERAL INFORMATION:
; APPLICANT: Esoe Ekinaduse Iduosogie et al.
; TITLE OF INVENTION: Polypeptide Variants
; FILE REFERENCE: P1266R2
; CURRENT APPLICATION NUMBER: US/09/054,255
; CURRENT FILING DATE: 1998-04-02
; NUMBER OF SEQ ID NOS: 2
; SEQ ID NO 2
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: B27 anti-1gB antibody heavy chain
; US-09-054-255-2

Query Match 100.0%; Score 623; DB 3; Length 451;
Best Local Similarity 100.0%; Pred. No. 5.1e-54; Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVQPGGSLRLSCAVSGYITSGSWSNNWIRQAPGKLEWAVSIKYSGETK 60
Db 1 EVOLVESGGGLVQPGGSLRLSCAVSGYITSGSWSNNWIRQAPGKLEWAVSIKYSGETK 60
QY 61 NPSYKGRITISRDSKNTYLOMNSLRAEDTAVVYCAAGSHYFGHWHFAVWGOG 114
Db 61 NPSYKGRITISRDSKNTYLOMNSLRAEDTAVVYCAAGSHYFGHWHFAVWGOG 114
QY 61 NPSYKGRITISRDSKNTYLOMNSLRAEDTAVVYCAAGSHYFGHWHFAVWGOG 114
Db 61 NPSYKGRITISRDSKNTYLOMNSLRAEDTAVVYCAAGSHYFGHWHFAVWGOG 114

RESULT 29
US-09-296-005-18
; Sequence 18, Application US/09296005
; Patent No. 6290557
; GENERAL INFORMATION:
; APPLICANT: B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-1gB Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123CIR
; CURRENT APPLICATION NUMBER: US/09/296,005
; CURRENT FILING DATE: 1998-04-21
; EARLIER APPLICATION NUMBER: US 08/887,352
; NUMBER OF SEQ ID NOS: 26
; SEQ ID NO 18
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-451
; OTHER INFORMATION: Sequence is completely synthesized
; US-09-296-005-18

Query Match 100.0%; Score 623; DB 3; Length 451;
Best Local Similarity 100.0%; Pred. No. 5.1e-54; Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVQPGGSLRLSCAVSGYITSGSWSNNWIRQAPGKLEWAVSIKYSGETK 60
Db 1 EVOLVESGGGLVQPGGSLRLSCAVSGYITSGSWSNNWIRQAPGKLEWAVSIKYSGETK 60
QY 61 NPSYKGRITISRDSKNTYLOMNSLRAEDTAVVYCAAGSHYFGHWHFAVWGOG 114
Db 61 NPSYKGRITISRDSKNTYLOMNSLRAEDTAVVYCAAGSHYFGHWHFAVWGOG 114
QY 61 NPSYKGRITISRDSKNTYLOMNSLRAEDTAVVYCAAGSHYFGHWHFAVWGOG 114
Db 61 NPSYKGRITISRDSKNTYLOMNSLRAEDTAVVYCAAGSHYFGHWHFAVWGOG 114

RESULT 30
US-09-282-846-2
; Sequence 2, Application US/09282846
; Patent No. 6528624
; GENERAL INFORMATION:
; APPLICANT: Esoe Ekinaduse Iduosogie et al.
; TITLE OF INVENTION: Polypeptide Variants
; FILE REFERENCE: P1266R2
; CURRENT APPLICATION NUMBER: US/09/282,846
; CURRENT FILING DATE: 1999-03-31
; NUMBER OF SEQ ID NOS: 2
; SEQ ID NO 2
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; NAME/KEY: Artificial Sequence
; LOCATION: 1-451
; OTHER INFORMATION: Sequence is completely synthesized
; Patent No. 6528624
; US-09-282-846-2

Query Match 100.0%; Score 623; DB 4; Length 451;
Best Local Similarity 100.0%; Pred. No. 5.1e-54; Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVQPGGSLRLSCAVSGYITSGSWSNNWIRQAPGKLEWAVSIKYSGETK 60
Db 1 EVOLVESGGGLVQPGGSLRLSCAVSGYITSGSWSNNWIRQAPGKLEWAVSIKYSGETK 60
QY 61 NPSYKGRITISRDSKNTYLOMNSLRAEDTAVVYCAAGSHYFGHWHFAVWGOG 114
Db 61 NPSYKGRITISRDSKNTYLOMNSLRAEDTAVVYCAAGSHYFGHWHFAVWGOG 114
QY 61 NPSYKGRITISRDSKNTYLOMNSLRAEDTAVVYCAAGSHYFGHWHFAVWGOG 114
Db 61 NPSYKGRITISRDSKNTYLOMNSLRAEDTAVVYCAAGSHYFGHWHFAVWGOG 114

RESULT 31
US-09-680-145-2
; Sequence 2, Application US/09680145
; Patent No. 6538124
; GENERAL INFORMATION:
; APPLICANT: Esoe Ekinaduse Iduosogie et al.
; TITLE OF INVENTION: Polypeptide Variants
; FILE REFERENCE: P1266R1
; CURRENT APPLICATION NUMBER: US/09/680,145
; CURRENT FILING DATE: 2000-10-03
; PRIOR APPLICATION NUMBER: 09/282,505
; PRIOR FILING DATE: 1999-03-13
; NUMBER OF SEQ ID NOS: 2
; SEQ ID NO 2
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; NAME/KEY: Artificial Sequence
; LOCATION: 1-451
; OTHER INFORMATION: Sequence is completely synthesized
; Patent No. 6538124
; US-09-680-145-2

```


; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 18
; LENGTH: 451
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Heavy chain sequence derived from MAE11
US-10-113-996-18

Query Match 100.0%; Score 623; DB 4; Length 451;
Best Local Similarity 100.0%; Prod. No. 5.1e-54; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0; Pairs 0; Gaps 0;
QY 1 EVQLEVSGGLVQPGGSLRLSCAVGYSITSGISMWIRQAPGKGLEWASIKSGETKY 60
Db 1 EVQLEVSGGLVQPGGSLRLSCAVGYSITSGISMWIRQAPGKGLEWASIKSGETKY 60
QY 61 NPSVKGRTISRDPSKNTYQLOMNSLRAEDTAVYCARSHYRCHWHRFPAVWGQG 114
Db 61 NPSVKGRTISRDPSKNTYQLOMNSLRAEDTAVYCARSHYRCHWHRFPAVWGQG 114

Search completed: June 3, 2005, 12:45:37
Job time : 23 secs

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Query Match 100.0%; Score 623; DB 2; Length 114;
 Best Local Similarity 100.0%; Pred. No. 5.2e-51; Indels 0; Gaps 0;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EVOLVESGGGLQPGGSRILSCAVSGSISITSGSISWNRQAPGKLEWAVASIKYSGTKY 60
 1 EVOLVESGGGLQPGGSRILSCAVSGSISITSGSISWNRQAPGKLEWAVASIKYSGTKY 60
 Db 61 NPVKGRITISRDSDKTQVLYLQNSLRAEDTAVYTCARGSHYFGHWFHFAVNGQG 114
 61 NPVKGRITISRDSDKTQVLYLQNSLRAEDTAVYTCARGSHYFGHWFHFAVNGQG 114
 QY 61 NPVKGRITISRDSDKTQVLYLQNSLRAEDTAVYTCARGSHYFGHWFHFAVNGQG 114
 61 NPVKGRITISRDSDKTQVLYLQNSLRAEDTAVYTCARGSHYFGHWFHFAVNGQG 114

RESULT 2
 AAB7645
 ID AAB76945 standard; protein; 114 AA.
 XX
 AC AAB76945;
 XX
 DT 17-APR-2001 (first entry)
 DR Variable heavy chain sequence of e27 SEQ ID 11.
 XX
 KW Antibody; antiasthmatic; antiallergic; ophthalmological; dermatological;
 KW conjunctivitis; eczema; urticaria; food allergy.
 XX
 OS Synthetic.
 XX
 PN US6172213-B1.
 XX
 PD 09-JAN-2001.
 XX
 PF 30-JUN-1998; 98US-00109207.
 XX
 PR 02-JUL-1997; 97US-0051554P.
 PA (GETH) GENENTECH INC.
 PI Lowman HB, Presta LG, Jardieu PM, Lowe J;
 XX
 DR WPI; 2001-122353/13.
 XX
 PT New nucleic acid encoding anti-immunoglobulin E antibody with improved properties, produced by substituting aspartyl residues in unimproved immunoglobulin E prone to isomerization by other residues by affinity maturation with phage display.
 XX
 PS Disclosure; Fig 2; 89pp; English.
 XX
 CC This invention relates to a nucleotide sequence encoding an antibody with improved anti-IgE antibody activity. The antibody has improved action due to a process comprising, a) identifying aspartyl residues prone to isomerisation in unimproved anti-IgE (immunoglobulin E) antibody; b) substituting alternative residues to create candidate molecules; and c) selecting those candidate molecules which display affinity against the target molecule. Use of the antibody results in antiasthmatic, antiallergic; ophthalmological; dermatological and antiinflammatory activity. The antibodies are useful for treating IgE-mediated disorders such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and food allergies. The mutant antibodies produced by the above mentioned nucleic acids may also be used as affinity purification agents and in diagnostic assays for detecting the expression of an antigen of interest in specific cell, tissues or serum. Amino acid sequences AAB76936- AAB76950 represent fragments of anti-IgE antibodies of the invention. CC Polynucleotide sequence AAB76925 represents an expression plasmid used in the course of the invention, and oligonucleotides AAF6924 - AAF69271 are used in the generation of affinity improved anti-IgE antibodies
 XX
 SQ Sequence 114 AA;

Query Match

100.0%; Score 623; DB 4; Length 114;

QY

1 EVOLVESGGGLQPGGSRILSCAVSGSISITSGSISWNRQAPGKLEWAVASIKYSGTKY 60

Best Local Similarity 100.0%; Pred. No. 5.2e-51; Indels 0; Gaps 0;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EVOLVESGGGLQPGGSRILSCAVSGSISITSGSISWNRQAPGKLEWAVASIKYSGTKY 60
 1 EVOLVESGGGLQPGGSRILSCAVSGSISITSGSISWNRQAPGKLEWAVASIKYSGTKY 60
 Db 61 NPVKGRITISRDSDKTQVLYLQNSLRAEDTAVYTCARGSHYFGHWFHFAVNGQG 114
 61 NPVKGRITISRDSDKTQVLYLQNSLRAEDTAVYTCARGSHYFGHWFHFAVNGQG 114
 RESULT 3
 ADN07032
 ID ADN07032 standard; protein; 114 AA.
 XX
 AC ADN07032;
 XX
 DT 01-JUL-2004 (first entry)
 DE Anti-IgE antibody e27 variable heavy chain domain (VH).
 XX
 KW Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder; allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy; variable heavy chain domain; VH.
 XX
 OS Unidentified.
 XX
 Key Location/Qualifiers
 FT Region 26..36 /Label= CDR-H1
 FT Region 51..66 /Label= CDR-H2
 FT Region 99..110 /Label= CDR-H3
 XX
 PN US6723033-B1.
 XX
 PD 20-APR-2004.
 XX
 PR 17-NOV-2000; 2000US-0071602B.
 XX
 PR 02-JUL-1997; 97US-0051554P.
 PR 30-JUN-1998; 98US-00109207.
 PA (GETH) GENENTECH INC.
 XX
 PI Lowman HB, Presta LG, Jardieu PM, Lowe J;
 XX
 DR WPI; 2004-326922/30.
 XX
 PT New composition of an improved anti-IgE antibody or IgE binding fragment, useful for treating IgE-mediated diseases, e.g. atopic allergy, asthma, conjunctivitis, eczema, urticaria or food allergies.
 XX
 PS Disclosure; SEQ ID NO 11; 89pp; English.
 XX
 CC The invention relates to therapeutic compositions comprising anti-IgE antibody or IgE binding fragment in combination with an adjunct immunosuppressive agent. The composition is useful for treating IgE-mediated disorders. The disorders include atopic allergy associated with anaphylactic hypersensitivity and asthma, allergic rhinitis and conjunctivitis, eczema, urticaria and food allergies. The present sequence is an anti-IgE antibody variable heavy chain domain (VH).
 XX
 SQ Sequence 114 AA;

Query Match 100.0%; Score 623; DB 8; Length 114;
 Best Local Similarity 100.0%; Pred. No. 5.2e-51; Indels 0; Mismatches 0; Gaps 0;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLQPGGSRILSCAVSGSISITSGSISWNRQAPGKLEWAVASIKYSGTKY 60

RESULT 4

AAW9566
ID AAW95666 standard; protein; 229 AA.
XX

AC AAW95666;
XX

DT 08-JUN-1999 (first entry)
XX

DE Mus musculus anti-IgE e27 variable heavy chain Fab fragment.
XX

KW variable; IgE; Fab fragment; antibody; anti-IgE; reduction; prevention;
KW histamine; production; hypersensitivity; allergen; anaphylaxis;
KW atopic allergy; asthma; allergic rhinitis; conjunctivitis; hay fever;
KW eczema; anaphylactic shock; urticaria; heavy chain.
XX

OS Mus musculus.
XX

PN W09901556-A2.
XX

PD 14-JAN-1999.
XX

PP 30-JUN-1998; 98WO-US013410.
PR 02-JUL-1997; 97US-00887352.
XX

PA (GBTB) GENENTECH INC.
XX

PI Lowman HB, Presta LG, Jardieu PM, Lowe J;
XX

DR WPI; 2001-122353/13.
XX

PT New nucleic acid encoding anti-immunoglobulin E antibody with improved
PT properties, produced by substituting aspartyl residues in unimproved
PT immunoglobulin E prone to isomerization by other residues by affinity
PT maturation with phage display.
XX

PS Claim 3; Fig 13; 87pp; English.
XX

CC This invention relates to a nucleotide sequence encoding an antibody with
CC improved anti-IgE antibody activity. The antibody has improved action due
CC to a process comprising, a) identifying aspartyl residues prone to
CC isomerisation in unimproved anti-IgE (immunoglobulin E) antibody; b)
CC substituting alternative residues to create candidate molecules; and c)
CC selecting those candidate molecules which display affinity against the
CC target molecule. Use of the antibody results in antiasthmatic;
CC anti allergic; ophthalmological; dermatological and antiinflammatory
CC activity. The antibodies are useful for treating IgE-mediated disorders
CC such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and
CC food allergies. The mutant antibodies produced by the above mentioned
CC nucleic acids may also be used as affinity purification agents and in
CC diagnostic assays for detecting the expression of an antigen of interest
CC in specific cell, tissues or serum. Amino acid sequences AAB76936-
CC AAB76960 represent fragments of anti-IgE antibodies of the invention.
CC Polynucleotide sequence AAF6923 represents an expression plasmid used in
CC the course of the invention, and oligonucleotides AAF69254 - AAF69271 are
CC used in the generation of affinity improved anti-IgE antibodies
XX

SQ Sequence 229 AA;

Query Match 100.0%; Score 623; DB 2; Length 229;
Best Local Similarity 100.0%; Pred. No. 1.1e-50;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVOPGGSRLSCAVSGSITSCTGSYWNWIRQAPGKLEWAVASIKYSGTKY 60
Db 1 EVOLVESGGGLVOPGGSRLSCAVSGSITSCTGSYWNWIRQAPGKLEWAVASIKYSGTKY 60

QY 61 NPSVKGRTISRDSDKTFYQLOQNSLRAEDTAVYCCARGSHYFGHWHFPAWGCG 114
Db 61 NPSVKGRTISRDSDKTFYQLOQNSLRAEDTAVYCCARGSHYFGHWHFPAWGCG 114

RESULT 5

ADN07042
ID ADN07042 standard; protein; 229 AA.
XX

PT Lowman HB, Presta LG, Jardieu PM, Lowe J;
 XX DR WPI; 2001-122353/13.

PT New nucleic acid encoding anti-immunoglobulin E antibody with improved
 XX PT substituting aspartyl residues in unimproved immunoglobulin E prone to isomerization by other residues by affinity maturation with phage display.

PT XX PS Claim 3; Fig 15; 87pp; English.

CC This invention relates to a nucleotide sequence encoding an antibody with improved anti-IGE antibody activity. The antibody has improved action due to a process comprising, a) identifying aspartyl residues prone to isomerisation in unimproved anti-IGE (immunoglobulin E) antibody; b) substituting alternative residues to create candidate molecules, and c) selecting those candidate molecules which display affinity against the target molecule. Use of the antibody results in anti-asthmatic, anti-allergic, ophthalmological, dermatological and antiinflammatory activity. The antibodies are useful for treating IgE-mediated disorders such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and food allergies. The mutant antibodies produced by the above mentioned nucleic acids may also be used as affinity purification agents and in diagnostic assays for detecting the expression of an antigen of interest in specific cell, tissues or serum. Amino acid sequences AB76936, AB76950 represent fragments of anti-IGE antibodies of the invention. CC Polynucleotide sequence AA69253 represents an expression plasmid used in the course of the invention, and oligonucleotides AA69254 - AA69271 are used in the generation of affinity improved anti-IGE antibodies

XX SQ Sequence 233 AA;

Query Match 100.0%; Score 623; DB 4; Length 233; Best Local Similarity 100.0%; Pred. No. 1.2e-50; Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGLVQPGGSLRLSCAVSGYSTITSGISWNNWIRQAPKGKLEAVASIKYGETK 60
 DB 1 EVOLVESGGLVQPGGSLRLSCAVSGYSTITSGISWNNWIRQAPKGKLEAVASIKYGETK 60

QY 61 NPSVKGRTISRDSSKNTYFLQMSLRAEDTAVYCAARGSHYFGHWHFAVWGOG 114
 DB 61 NPSVKGRTISRDSSKNTYFLQMSLRAEDTAVYCAARGSHYFGHWHFAVWGOG 114

QY 61 NPSVKGRTISRDSSKNTYFLQMSLRAEDTAVYCAARGSHYFGHWHFAVWGOG 114
 DB 61 NPSVKGRTISRDSSKNTYFLQMSLRAEDTAVYCAARGSHYFGHWHFAVWGOG 114

RESULT 9
 ADN07047 ADN07047 standard; protein; 233 AA.

RESULT 9
 ADN07047 ADN07047 standard; protein; 233 AA.

XX AC ADN07047;

XX DT 01-JUL-2004 (first entry)

DB DE Anti-IGE antibody e27 variable heavy (VH) F(ab)'² fragment.

XX KW Anti-IGE antibody; immunosuppressive agent; IgE-mediated disorder; KW therapy; atopic allergy; anaphylactic hypersensitivity; asthma; KW allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy; KW variable heavy chain; VH.

XX OS Unidentified.

XX OS Unidentified.

XX PN US6723833-B1.

XX PD 20-APR-2004.

XX PF 17-NOV-2000; 2000US-00716028.

XX PR 02-JUL-1997; 97US-0051554P.

XX PR 30-JUN-1998; 98US-00109207.

XX PA (GETH) GENENTECH INC.

XX PI Lowman HB, Presta LG, Jardieu PM, Lowe J;

XX DR WPI; 1999-106057/09.

XX PT Improving affinity of polypeptides, particularly anti-IGE antibodies - by identifying aspartyl residues which undergo isomerization and substituting alternative residues and screening for affinity against the target.

XX PS Disclosure; Page 103-104; 129pp; English.

XX CC The sequence is that of the e27 sFv fragment. It was used as part of a

CC method to improve the affinity of anti-IgE antibodies such as e26 and
 CC e27. The e26 and e27 antibodies can be used for reducing or preventing
 CC IgE mediated production of histamine in a mammal. They can be used for
 CC treating a disorder mediated by IgE such as hypersensitivity, atopic
 CC allergy, asthma, allergic rhinitis, conjunctivitis, hay fever, eczema,
 CC anaphylactic shock and urticaria. The antibodies can also be used for
 CC affinity purification, detection and diagnosis

XX Sequence 248 AA;

SQ

Query Match 100.0%; Score 623; DB 2; Length 248;
 Best Local Similarity 100.0%; Pred. No. 1.2e-50;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EVOLVESGGGLQPGGSLRLSCAVSGSISITSGSISWNWIRQAPGKGLEWAVASTKYSGETK 60
 Db 1 EVOLVESGGGLQPGGSLRLSCAVSGSISITSGSISWNWIRQAPGKGLEWAVASTKYSGETK 60
 QY 61 NPsvkgritIsRdskNpYlQmNsLRAEdtavycargshYfghwHfawNgQ 114
 Db 61 NPsvkgritIsRdskNpYlQmNsLRAEdtavycargshYfghwHfawNgQ 114

RESULT 11

ADN076957
 ID AAB76957 standard; protein; 248 AA.

XX
 AC AAB76957;

XX DT 17-APR-2001 (first entry)

XX DE sFv fragment of e27 SEQ ID 23.

XX DE antibody; antiasthmatic; antiallergic; ophthalmological; dermatological;

XX antibody; antiasthmatic; antiallergic; ophthalmological; dermatological;

XX conjunctivitis; eczema; urticaria; food allergy.

OS Synthetic.

OS XX

PN US6172213-B1.

XX PD 09-JAN-2001.

XX PF 30-JUN-1998; 98US-00109207.

XX PR 02-JUL-1997; 97US-0051554P.

XX PA (GETH) GENENTECH INC.

XX PT Lowman HB, Presta LG, Jardieu PM, Lowe J;

XX DR WPI; 2001-122353/13.

XX New nucleic acid encoding anti-immunoglobulin E antibody with improved
 PT properties, produced by substituting aspartyl residues in unimproved
 PT immunoglobulin E prone to isomerization by other residues by affinity
 PT maturation with phag display.

XX PS Claim 3; Fig 14; 87pp; English.

XX This invention relates to a nucleotide sequence encoding an antibody with
 CC improved anti-IgE antibody activity. The antibody has improved action due
 CC to a process comprising, a) identifying aspartyl residues prone to
 CC isomerisation in unimproved anti-IgE (immunoglobulin E) antibody; b)
 CC substituting alternative residues to create candidate molecules; and c)
 CC selecting those candidate molecules which display affinity against the
 CC target molecule. Use of the antibody results in antiasthmatic;
 CC anti allergic; ophthalmological and anti inflammatory
 CC activity. The antibodies are useful for treating IgE-mediated disorders
 CC such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and
 CC food allergies. The mutant antibodies produced by the above mentioned
 CC nucleic acids may also be used as affinity purification agents and in
 CC diagnostic assays for detecting the expression of an antigen of interest

CC in specific cell, tissues or serum. Amino acid sequences AAB76936-
 CC AAB76960 represent fragments of anti-IgE antibodies of the invention.
 CC Polynucleotide sequence AAF69253 represents an expression plasmid used in
 CC the course of the invention, and oligonucleotides AAF6254 - AAF69271 are
 CC used in the generation of affinity improved anti-IgE antibodies
 XX Sequence 248 AA;

SQ

Query Match 100.0%; Score 623; DB 4; Length 248;
 Best Local Similarity 100.0%; Pred. No. 1.2e-50;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 EVOLVESGGGLQPGGSLRLSCAVSGSISITSGSISWNWIRQAPGKGLEWAVASTKYSGETK 60
 Db 1 EVOLVESGGGLQPGGSLRLSCAVSGSISITSGSISWNWIRQAPGKGLEWAVASTKYSGETK 60
 QY 61 NPsvkgritIsRdskNpYlQmNsLRAEdtavycargshYfghwHfawNgQ 114
 Db 61 NPsvkgritIsRdskNpYlQmNsLRAEdtavycargshYfghwHfawNgQ 114

RESULT 12

ADN07044
 ID ADN07044 standard; protein; 248 AA.

XX
 AC ADN07044;

XX DT 01-JUL-2004 (first entry)

XX DE Anti-IgE antibody e27 sFv fragment.

XX Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder;

XX therapy; atopic allergy; anaphylactic hypersensitivity; asthma;

XX allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy.

OS Unidentified.

OS XX

PN US6723633-B1.

XX PD 20-APR-2004.

XX PF 17-NOV-2000; 2000US-00716028.

XX PF 02-JUL-1997; 97US-0051554P.

XX PR 30-JUN-1998; 98US-00109207.

XX PA (GETH) GENENTECH INC.

XX PT Lowman HB, Presta LG, Jardieu PM, Lowe J;

XX DR WPI; 2004-326922/30.

XX New composition of an improved anti-IgE antibody or IgE binding fragment,
 PT useful for treating IgE-mediated diseases, e.g. atopic allergy, asthma,
 PT conjunctivitis, eczema, urticaria or food allergies.

XX PS Claim 8; SEQ ID NO 23; 89pp; English.

XX The invention relates to therapeutic compositions comprising anti-IgE
 CC antibody or IgE binding fragment in combination with an adjunct
 CC immunosuppressive agent. The composition is useful for treating IgE-
 CC mediated disorders. The disorders include atopic allergy associated with
 CC anaphylactic hypersensitivity and asthma, allergic rhinitis and
 CC conjunctivitis, eczema, urticaria and food allergies. The present
 CC sequence is an anti-IgE antibody sFv fragment.

XX Sequence 248 AA;

CC Query Match 100.0%; score 623; DB 8; Length 248;
 CC Best Local Similarity 100.0%; Pred. No. 1.2e-50;
 CC Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLQPGGSLRLSCAVSGSISITSGSISWNWIRQAPGKGLEWAVASTKYSGETK 60

Db 1 EVOLVESGGGLVPGGSLRLSCAVSGYSITSGSWNWIRQAPGKGLEWVASKVSGETK 60
 Qy 61 NPSVKGRTISRDSSKNTYQLOMSLRAEDTAVYCARSHYCHWHAUWGOG 114
 Id 61 NPSVKGRTISRDSSKNTYQLOMSLRAEDTAVYCARSHYCHWHAUWGOG 114
 Db AAW95663
 AC AAW95663;
 XX
 DT 08-JUN-1999 (first entry)
 XX
 DE Mis musculus anti-IgE e27 full length heavy chain.
 XX
 KW Heavy chain; IgE; antibody; anti-IgE; reduction; prevention; histamine;
 KW production; hypersensitivity; allergen; anaphylaxis; atopic allergy;
 KW asthma; allergic rhinitis; conjunctivitis; hay fever; eczema;
 KW anaphylactic shock; urticaria.
 OS Mus musculus.
 XX
 PN WO9901556-A2.
 XX
 PD 14-JAN-1999.
 XX
 PR 30-JUN-1998; 99WO-US013410.
 XX
 PR 02-JUL-1997; 97US-00887352.
 XX
 PA (GETH) GENENTECH INC.
 XX
 PI Lowman HB, Presta LG, Jardieu PM, Lowe J;
 XX
 DR WPT; 1999-106057/09.
 XX
 PT Improving affinity of polypeptides, particularly anti-IgE antibodies - by
 PT identifying aspartryl residues which undergo isomerization and
 PT substituting alternative residues and screening for affinity against the
 PT target.
 XX
 PS Disclosure; Page 97-99; 129pp; English.
 XX
 The sequence is that of the full length heavy chain of e27. It was used
 CC as part of a method to improve the affinity of anti-IgE antibodies such
 CC as e26 and e27. The e26 and e27 antibodies can be used for reducing or
 CC preventing IgE mediated production of histamine in a mammal. They can be
 CC used for treating a disorder mediated by IgE such as hypersensitivity,
 CC atopic allergy, asthma, allergic rhinitis, conjunctivitis, hay fever,
 CC eczema, anaphylactic shock and urticaria. The antibodies can also be used
 CC for affinity purification, detection and diagnosis
 XX
 Sequence 451 AA;
 SQ Query Match 100.0%; Score 623; DB 2; Length 451;
 Best Local Similarity 100.0%; Pred. No. 2. 4e-50;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Qy 1 EVOLVESGGGLVPGGSLRLSCAVSGYSITSGSWNWIRQAPGKGLEWVASKVSGETK 60
 Id 1 EVOLVESGGGLVPGGSLRLSCAVSGYSITSGSWNWIRQAPGKGLEWVASKVSGETK 60
 Db 61 NPSVKGRTISRDSSKNTYQLOMSLRAEDTAVYCARSHYCHWHAUWGOG 114
 Qy 61 NPSVKGRTISRDSSKNTYQLOMSLRAEDTAVYCARSHYCHWHAUWGOG 114
 Db 61 NPSVKGRTISRDSSKNTYQLOMSLRAEDTAVYCARSHYCHWHAUWGOG 114
 XX
 RESULT 13
 AAW95663
 ID AAW95663 standard; protein; 451 AA.
 XX
 AC AAY50031;
 XX
 DT 19-JAN-2000 (first entry)
 XX
 DE Human E27 anti-IgE antibody heavy chain.
 XX
 KW Immunoglobulin E; IgE; antibody; vascular endothelial growth factor;
 KW VEGF; chimeric; IgG; assay; Fc gamma receptor; low affinity; hexamer;
 KW complex; cross-linked; enzyme-linked immunosorbent assay; ELISA;
 KW heavy chain.
 OS Synthetic.
 OS Homo sapiens.
 XX
 PN WO951642-A1.
 XX
 PD 14-OCT-1999.
 XX
 PR 31-MAR-1999; 99WO-US006838.
 XX
 PR 02-APR-1998; 98US-00054255.
 PR 15-JAN-1999; 99US-0116100P.
 XX
 PA (GETH) GENENTECH INC.
 XX
 PI Idubogie EE, Mulkerrin MG, Presta LG, Shields RL;
 XX
 DR WPI; 1999-620197/53.
 XX
 PT Antibody variants useful in receptor binding assays and in therapy of
 PT conditions needing treatment.
 XX
 PS Example 1; Fig 4B; 69pp; English.
 XX
 This sequence represents human E27 anti-IgE (immunoglobulin E) antibody
 CC heavy chain, which, along with the E27 light chain (AAY50030), comprises
 CC the E27 anti-IgE antibody. The E27 antibody binds the constant regions of
 CC IgE, and when mixed with IgE in an equimolar ratio, forms a stable
 CC hexamer consisting of three E27 molecules and 3 IgE molecules. This
 CC complex-forming ability can be utilized in an assay for the binding of
 CC IgG to Fc gamma receptors Re-gamma-IIa, Re-gamma-IIB and Fc-gamma-III,
 CC which have IgG affinities in the micromolar range and cannot be
 CC assayed via a standard ELISA (enzyme-linked immunosorbent assay)
 CC protocol. Via the low affinity receptor binding assay uses E27 and a
 CC recombinant chimeric form of IgE, consisting of a human IgE Fc region and
 CC the Fab regions of an anti-VEGF (vascular endothelial growth factor) chimeric
 CC antibody which binds two VEGF molecules per endohelial cell.
 CC IgE, when recombinant human VEGF is added at a 2:1 molar ratio to the
 CC E27 hexamer complexes, the hexamers are linked into larger complexes
 CC via IgE:VEGF interactions. The E27 component of this complex binds to
 CC the Fc-gamma-IIa, Fc-gamma-IIB and Fc-gamma-III alpha subunits to permit
 CC detection via ELISA.
 XX
 SQ Sequence 451 AA;
 SQ Query Match 100.0%; Score 623; DB 2; Length 451;
 Best Local Similarity 100.0%; Pred. No. 2. 4e-50;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Qy 1 EVOLVESGGGLVPGGSLRLSCAVSGYSITSGSWNWIRQAPGKGLEWVASKVSGETK 60
 Id 1 EVOLVESGGGLVPGGSLRLSCAVSGYSITSGSWNWIRQAPGKGLEWVASKVSGETK 60
 Db 61 NPSVKGRTISRDSSKNTYQLOMSLRAEDTAVYCARSHYCHWHAUWGOG 114
 Qy 61 NPSVKGRTISRDSSKNTYQLOMSLRAEDTAVYCARSHYCHWHAUWGOG 114
 Db 61 NPSVKGRTISRDSSKNTYQLOMSLRAEDTAVYCARSHYCHWHAUWGOG 114
 XX
 RESULT 15
 AAY50031
 ID AAY50031 standard; protein; 451 AA.

RESULT 14
 AAY50031
 ID AAY50031 standard; protein; 451 AA.

AC AAB07473;
 XX
 DT 20-OCT-2000 (First entry)
 XX
 DE Amino acid sequence of E27 and anti-IgE antibody heavy chain.
 XX
 KW anti-IgE antibody; heavy chain; Fc region; effector function; cancer;
 XX
 DE allergy; asthma; LFA-1-mediated disorder; tumour; cancer.
 XX
 OS Synthetic.
 XX
 PN WO20042072-A2.
 XX
 PD 20-JUL-2000.
 XX
 PP 14-JAN-2000; 2000WO-US000973.
 XX
 PR 15-JAN-1999; 99US-0116023P.
 PA (GETH) GENENTECH INC.
 PI Presta LG;
 XX
 DR WPI; 2000-476035/41.
 XX
 PT New Fc region-containing polypeptides that have altered effector function
 PT due to one or more amino acid modifications in the Fc region, useful in
 PT the treatment of cancer and allergic conditions such as asthma.
 XX
 PS Disclosure; Fig 4B; 132pp; English.

CC The present sequence represents the E27 and anti-IgE antibody heavy
 CC chain. The protein is used to produce Fc region-containing polypeptides
 CC that have altered effector function as a consequence of one or more amino
 CC acid modifications in the Fc region. The variant polypeptides are useful
 CC for treating cancer, allergic conditions such as asthma (with an anti-IgE
 CC antibody), and LFA-1-mediated disorders. Where the polypeptide binds the
 CC HER2 receptor, the disorder preferably is HER2-expressing cancer, e.g. a
 CC benign or malignant tumour characterized by overexpression of the HER2
 CC receptor. Such cancers include breast cancer, squamous cell cancer, small
 CC cell lung cancer, non-small cell lung cancer, gastrointestinal cancer,
 CC pancreatic cancer, glioblastoma, cervical cancer, ovarian cancer, bladder
 CC cancer, hepatoma, colon cancer, colorectal cancer, endometrial carcinoma,
 CC salivary gland carcinoma, kidney cancer, liver cancer, prostate cancer,
 CC vulval cancer, thyroid cancer, hepatic carcinoma and various types of
 CC head and neck cancer
 XX
 SQ Sequence 451 AA;

Query Match 100.0%; Score 623; DB 3; Length 451;
 Best Local Similarity 100.0%; Pred. No. 2.4e-50; Mismatches 0; Indels 0; Gaps 0;
 Matches 114; Conservative 0; -Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVQPGGSLRLSCAVGYSITSGYSWNNTRQAPKGLEWAVSIKYSGETK 60
 Db 1 EVOLVESGGGLVQPGGSLRLSCAVGYSITSGYSWNNTRQAPKGLEWAVSIKYSGETK 60
 QY 61 NPSVKGRTISRDSSKNTFLYQMLNSLRAEDTAVVYCARSHYFQHWHIAVWGCG 114
 Db 61 NPSVKGRTISRDSSKNTFLYQMLNSLRAEDTAVVYCARSHYFQHWHIAVWGCG 114

RESULT 17
 AAB74212
 ID AAB74212 standard; protein; 451 AA.
 XX
 AC AAB74212;
 XX
 DT 17-MAY-2001 (first entry)
 XX
 DE E27 anti-IgE antibody heavy chain.
 XX
 KW Antibody; antigen; cancer; allergy; asthma; LFA-mediated; autoimmune;
 KW vasculitis.

XX
 KW antiinflammatory; Ig E; immunoglobulin E; asthma; allergic rhinitis;
 KW conjunctivitis; eczema; urticaria; food allergy.
 XX
 OS Synthetic.
 XX
 PN US6172213-B1.
 XX
 PD 09-JAN-2001.
 XX
 PF 30-JUN-1998; 98US-00109207.
 XX
 PR 02-JUL-1997; 97US-0051554P.
 XX
 PA (GETH) GENENTECH INC.
 XX
 PI Lowman HB, Presta LG, Jardieu PM, Lowe J;
 XX
 DR WPI; 2001-122353/13.
 XX
 PT New nucleic acid encoding anti-immunoglobulin E antibody with improved
 PT properties, produced by substituting aspartyl residues in unimproved
 PT immunoglobulin E prone to isomerization by other residues by affinity
 XX
 PS maturation with phage display.
 XX
 Claim 4; Fig 12; 87pp; English.

CC This invention relates to a nucleotide sequence encoding an antibody with
 CC improved anti-IgE antibody activity. The antibody has improved action due
 CC to a process comprising, a) identifying aspartyl residues prone to
 CC isomerization in unimproved anti-IgE (immunoglobulin E) antibody; b)
 CC substituting alternative residues to create candidate molecules, and c)
 CC selecting those candidate molecules which display affinity against the
 CC target molecule, use of the antibody results in antiasthmatic,
 CC antiallergic, ophthalmological, dermatological and antiinflammatory
 CC activity. The antibodies are useful for treating IgE-mediated disorders
 CC such as asthma, allergic rhinitis, conjunctivitis, eczema, urticaria and
 CC food allergies. The mutant antibodies produced by the above mentioned
 CC nucleic acids may also be used as affinity purification agents and in
 CC diagnostic assays for detecting the expression of an antigen of interest
 CC in specific cell, tissues or serum. Amino acid sequences AAB6936-
 CC AAB6960 represent fragments of anti-IgE antibodies of the invention.
 CC Polynucleotide sequence AAB69253 represents an expression plasmid used in
 CC the course of the invention, and oligonucleotides AAB6934 - AAB69271 are
 CC used in the generation of affinity improved anti-IgE antibodies
 XX
 SQ Sequence 451 AA;

Query Match 100.0%; Score 623; DB 4; Length 451;
 Best Local Similarity 100.0%; Pred. No. 2.4e-50; Mismatches 0; Indels 0; Gaps 0;
 Matches 114; Conservative 0; -Mismatches 0; Indels 0; Gaps 0;

QY 1 EVOLVESGGGLVQPGGSLRLSCAVGYSITSGYSWNNTRQAPKGLEWAVSIKYSGETK 60
 Db 1 EVOLVESGGGLVQPGGSLRLSCAVGYSITSGYSWNNTRQAPKGLEWAVSIKYSGETK 60
 QY 61 NPSVKGRTISRDSSKNTFLYQMLNSLRAEDTAVVYCARSHYFQHWHIAVWGCG 114
 Db 61 NPSVKGRTISRDSSKNTFLYQMLNSLRAEDTAVVYCARSHYFQHWHIAVWGCG 114

RESULT 17
 AAB74212
 ID AAB74212 standard; protein; 451 AA.
 XX
 AC AAB74212;
 XX
 DT 17-MAY-2001 (first entry)
 XX
 DE E27 anti-IgE antibody heavy chain.
 XX
 KW Antibody; antigen; cancer; allergy; asthma; LFA-mediated; autoimmune;
 KW vasculitis.

XX
 KW Antibody; antiasthmatic; antiallergic; ophthalmological; dermatological;

CC diagnostically, based on their binding to a protein analyte or
 CC therapeutically, e.g. in case of cancer, allergy and autoimmune
 CC diseases. The variant polypeptides bind to Fc receptors but do not
 CC activate complement, so complement-dependent cytotoxicity is reduced or
 CC abolished. The present sequence represents the amino acid sequence of
 CC human anti-IgS antibody E27 heavy chain.

SQ sequence 451 AA;

RESULT 20

Query Match 100.0%; Score 623; DB 7; Length 451;
 Best Local Similarity 100.0%; Score 2.4e-50;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	Db	Qy	Db
1	1	61	61
EVOLVESSGGIVOPGGSURLSCAVSGYSYSTGYSWNWIRQAPGKLEWASYKSGETK	EVOLVESSGGIVOPGGSURLSCAVSGYSYSTGYSWNWIRQAPGKLEWASYKSGETK	NPSVKGRTISRDDSKNTYIQLOMSIRADTAVVYCARSHYFGWHFVAVGQ	NPSVKGRTISRDDSKNTYIQLOMSIRADTAVVYCARSHYFGWHFVAVGQ
60	60	114	114
EVOLVESSGGIVOPGGSURLSCAVSGYSYSTGYSWNWIRQAPGKLEWASYKSGETK	EVOLVESSGGIVOPGGSURLSCAVSGYSYSTGYSWNWIRQAPGKLEWASYKSGETK	61 NPSVKGRTISRDDSKNTYIQLOMSIRADTAVVYCARSHYFGWHFVAVGQ	61 NPSVKGRTISRDDSKNTYIQLOMSIRADTAVVYCARSHYFGWHFVAVGQ

ADF29039
 ID ADF29039 standard; protein; 451 AA.
 XX
 AC
 XX
 DT 12-FEB-2004 (first entry)
 DE Anti-IgE antibody E27-heavy chain.
 XX
 KW antibody; immunoadhesin; variant; human IgG1 Fc region;
 KW human IgG2 Fc region; human IgG3 Fc region; human Clq; cancer;
 KW autoimmune disorder; affinity purification; anti-IgE; immunoglobulin;
 KW E27; heavy chain.
 XX
 OS Unidentified.
 XX
 PN US2003158389-A1.
 XX
 PD 21-AUG-2003.
 XX
 PR 12-NOV-2002; 2002US-00292869.
 PR 02-APR-1998; 98US-0080447P.
 PR 15-JAN-1999; 99US-0116100P.
 PR 31-MAR-1999; 99US-00282846.
 XX
 PA (GETH) GENENTECH INC.
 XX
 PT Iduusogie EE, Presta LG, Mulkerrin MG;
 XX
 DR WPI; 2003-778020/73.
 XX
 PR New variant of a parent antibody or immunoadhesin polypeptide, comprising
 PR a human IgG1, IgG2 or IgG3 Fc region, useful for preparing a composition
 PR for treating disorders, e.g., cancer or as an affinity purification
 PR agent.
 XX
 PS Disclosure; SEQ ID NO 2; 39pp; English.
 XX
 CC The invention relates to a variant of a parent antibody or immunoadhesin
 CC polypeptide comprising a human IgG1, IgG2 or IgG3 Fc region, where the
 CC variant has a better affinity for human Clq than the parent polypeptide
 CC and comprises an amino acid substitution in the IgG Fc region, and where
 CC the antibody variant binds an antigen and the immunoadhesin variant binds
 CC a ligand or receptor. The variant is useful for preparing a composition
 CC for treating disorders, e.g., cancer or autoimmune disorders or as an
 CC affinity purification agent. The present sequence represents the anti-IgE
 CC antibody E27-heavy chain.
 Sequence 451 AA;

Query Match		100 %;	Score 623;	DB 7;	Length 451;
Best Local Similarity		100.0 %;	Pred. No. 2.4e-50;	Matches 0;	Mismatches 0;
QY	1	EVOLVESGGGLVQPGESNLRLSCAVGSCYSITSGYSWNWIRQPKGLEWAVSIKSGETK	60		
Db	1	EVOLVESGGGLVQPGESNLRLSCAVGSCYSITSGYSWNWIRQPKGLEWAVSIKSGETK	60		
QY	61	NPSVKGRITISRDSDKNTFILQMNSLRAEDTAVYTCARGSHYFGWHAFAWGQG	114		
Db	61	NPSVKGRITISRDSDKNTFILQMNSLRAEDTAVYTCARGSHYFGWHAFAWGQG	114		
RESULT 21					
ADN07039	XX	ADN07039 standard; protein; 451 AA.			
ID	XX				
AC	XX	ADN07039;			
XX	XX	01-JUL-2004 (first entry)			
DE	XX	Anti-IgE antibody e27 full length variable light chain (VH).			
KW	XX	Anti-IgE antibody; immunosuppressive agent; IgE-mediated disorder; therapy; atopic allergy; anaphylactic hypersensitivity; asthma; allergic rhinitis; conjunctivitis; eczema; urticaria; food allergy; variable heavy chain; VH.			
KW	XX	Unidentified.			
OS	XX				
PN	PN	US6723833-Bl.			
XX	XX	20-APR-2004.			
PP	XX	17-NOV-2000; 20000US-00716028.			
PR	XX	02-JUL-1997; 97US-005154P.			
PR	XX	30-JUN-1998; 98US-00109207.			
PA	XX	(GETH) GENENTECH INC.			
PS	XX	Lowman HB, Presta LG, Jardieu PM, Lowe J;			
DR	XX	WPI; 2004-326922/30.			
CC	XX	New composition of an improved anti-IgE antibody or IgE binding fragment, useful for treating IgE-mediated diseases, e.g. atopic allergy, asthma, conjunctivitis, eczema, urticaria or food allergies.			
CC	XX	Claim 1; SEQ ID NO 18; 89pp; English.			
CC	XX				
CC	XX				
CC	XX				
CC	XX				
CC	XX				
CC	XX				
CC	XX				
CC	XX				
CC	XX				
CC	XX				
CC	XX				
CC	XX				
CC	XX				
CC	XX				
CC	XX				
CC	XX				
CC	XX				
CC	XX				
CC	XX				
CC	XX				
CC	XX				
SQ	Sequence 451 AA;				
Query Match	100 %;	Score 623;	DB 8;	Length 451;	
Best Local Similarity	100.0 %;	Pred. No. 2.4e-50;	Matches 114;	Conservative 0;	Mismatches 0;
Matches	114;				
QY	1	EVOLVESGGGLVQPGESNLRLSCAVGSCYSITSGYSWNWIRQPKGLEWAVSIKSGETK	60		
Db	1	EVOLVESGGGLVQPGESNLRLSCAVGSCYSITSGYSWNWIRQPKGLEWAVSIKSGETK	60		
QY	61	NPSVKGRITISRDSDKNTFILQMNSLRAEDTAVYTCARGSHYFGWHAFAWGQG	114		
Db	61	NPSVKGRITISRDSDKNTFILQMNSLRAEDTAVYTCARGSHYFGWHAFAWGQG	114		

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Page 11

Search completed: June 3, 2005, 12:44:13
Job time : 71 secs

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LENGTH: 114
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; NAME/KEY: Artificial
; LOCATION: 1-114
; OTHER INFORMATION: Light chain sequence derived from MAE11
; US-09-296-005-8
Query Match 100.0%; Score 596; DB 3; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-49; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0;
; OTHER INFORMATION: Light chain sequence derived from MAE11
; US-09-920-171-8
Sequence 8, Application US/09920171
; GENERAL INFORMATION:
; PATENT NO. 662735
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
; FILE REFERENCE: P1123C2US
; CURRENT APPLICATION NUMBER: US/09/920,171
; CURRENT FILING DATE: 2001-08-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 8
; LENGTH: 114
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Light chain sequence derived from MAE11
; US-09-920-171-8
Query Match 100.0%; Score 596; DB 4; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-49; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0;
; OTHER INFORMATION: Light chain sequence derived from MAE11
; US-10-113-996-8
Query Match 100.0%; Score 596; DB 4; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-49; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0;
; OTHER INFORMATION: Light chain sequence derived from MAE11
; US-10-113-996-8
Sequence 8, Application US/10113996
; GENERAL INFORMATION:
; PATENT NO. 6761889
; APPLICANT: Lowman, Henry B.
; APPLICANT: Presta, Leonard G.
; APPLICANT: Jardieu, Paula M.
; APPLICANT: Lowe, John
; TITLE OF INVENTION: Improved Anti-IgE Antibodies
; FILE REFERENCE: P1123C3US
; CURRENT APPLICATION NUMBER: US/10/113,996
; CURRENT FILING DATE: 2002-04-01
; PRIOR APPLICATION NUMBER: US 08/887,352
; PRIOR FILING DATE: 1997-07-02
; PRIOR APPLICATION NUMBER: US 09/296,005
; PRIOR FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: US 09/920,171
; PRIOR FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 44
; SEQ ID NO 8
; LENGTH: 114
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Light chain sequence derived from MAE11
; US-10-113-996-8
Query Match 100.0%; Score 596; DB 4; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-49; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0;
; OTHER INFORMATION: Light chain sequence derived from MAE11
; US-10-113-996-8
Query Match 100.0%; Score 596; DB 4; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-49; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0;
; OTHER INFORMATION: Light chain sequence derived from MAE11
; US-09-716-028-8
Sequence 8, Application US/09716028
; GENERAL INFORMATION:
; PATENT NO. 673383
; APPLICANT: Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; FILE REFERENCE: P1123R1
; CURRENT APPLICATION NUMBER: US/09/716,028
; CURRENT FILING DATE: 2000-11-17
; PRIOR APPLICATION NUMBER: US 09/109,207
; PRIOR FILING DATE: 1998-06-30
; OTHER INFORMATION: Light chain sequence derived from MAE11
; US-09-716-028-8
Query Match 100.0%; Score 596; DB 3; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.1e-49; Mismatches 0; Indels 0; Gaps 0;
Matches 114; Conservative 0;
; OTHER INFORMATION: Light chain sequence derived from MAE11
; US-09-716-028-8
Sequence 15, Application US/08887352B
; GENERAL INFORMATION:
; PATENT NO. 594511
; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe

TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of
 Improving Polypeptides
 NUMBER OF SEQUENCES: 26
 CORRESPONDENCE ADDRESS:
 ADDRESSEE: Genentech, Inc.
 STREET: 1 DNA Way
 CITY: South San Francisco
 STATE: California
 COUNTRY: USA
 ZIP: 94080
 COMPUTER READABLE FORM:
 MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
 COMPUTER: IBM PC compatible
 OPERATING SYSTEM: PC-DOS/MS-DOS
 SOFTWARE: WinPatin (Genentech)
 CURRENT APPLICATION DATA:
 APPLICATION NUMBER: US/08/887,352B
 FILING DATE: 03-Jul-1997
 CLASSIFICATION: 530
 ATTORNEY/AGENT INFORMATION:
 NAME: Svoboda, Craig G.
 REGISTRATION NUMBER: 39,044
 REFERENCE/DOCKET NUMBER: P1123
 TELECOMMUNICATION INFORMATION:
 TELEPHONE: 650/225-1489
 TELEFAX: 650/952-9881
 INFORMATION FOR SEQ ID NO: 15:
 SEQUENCE CHARACTERISTICS:
 LENGTH: 218 amino acids
 TYPE: Amino Acid
 TOPOLOGY: Linear
 US-08-887-352B-15

Query Match 100.0%; Score 596; DB 2; Length 218;
 Best Local Similarity 100.0%; Pred. No. 2.4e-49; Gaps 0;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DIQIQTQSPSSLSASVGDRVTITCRASKPVDGEGDSYLNWYQKRGKAPKLIVIAYSL 60
 Db 1 DIQIQTQSPSSLSASVGDRVTITCRASKPVDGEGDSYLNWYQKRGKAPKLIVIAYSL 60

QY 61 GPVSRPFGSGSGTDTLTISSLOPEDFATYCOOSHEDPYTFSGQTKVKEIKRTV 114
 Db 61 GPVSRPFGSGSGTDTLTISSLOPEDFATYCOOSHEDPYTFSGQTKVKEIKRTV 114

RESULT 7
 US-08-887-352B-17
 Sequence 17, Application US/08887352B
 Patent No. 594511
 GENERAL INFORMATION:
 APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
 TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of
 Improving Polypeptides
 NUMBER OF SEQUENCES: 26
 CORRESPONDENCE ADDRESS:
 ADDRESSEE: Genentech, Inc.
 STREET: 1 DNA Way
 CITY: South San Francisco
 STATE: California
 COUNTRY: USA
 ZIP: 94080
 COMPUTER READABLE FORM:
 MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
 COMPUTER: IBM PC compatible
 OPERATING SYSTEM: PC-DOS/MS-DOS
 SOFTWARE: WinPatin (Genentech)
 CURRENT APPLICATION DATA:
 APPLICATION NUMBER: US/08/887,352B
 FILING DATE: 03-Jul-1997
 CLASSIFICATION: 530
 ATTORNEY/AGENT INFORMATION:
 NAME: Svoboda, Craig G.
 REGISTRATION NUMBER: 39,044
 REFERENCE/DOCKET NUMBER: P1123
 TELECOMMUNICATION INFORMATION:
 TELEPHONE: 650/225-1489
 TELEFAX: 650/952-9881
 INFORMATION FOR SEQ ID NO: 19:
 SEQUENCE CHARACTERISTICS:
 LENGTH: 218 amino acids
 TYPE: Amino Acid
 TOPOLOGY: Linear
 US-08-887-352B-19

Query Match 100.0%; Score 596; DB 2; Length 218;
 Best Local Similarity 100.0%; Pred. No. 2.4e-49; Gaps 0;
 Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DIQIQTQSPSSLSASVGDRVTITCRASKPVDGEGDSYLNWYQKRGKAPKLIVIAYSL 60
 Db 1 DIQIQTQSPSSLSASVGDRVTITCRASKPVDGEGDSYLNWYQKRGKAPKLIVIAYSL 60

QY 61 GPVSRPFGSGSGTDTLTISSLOPEDFATYCOOSHEDPYTFSGQTKVKEIKRTV 114

Db 61 GVPNSRFSGSGSJDFTLTISLQPEDFATYCOQSHEPDYTFQGTRKEIKRTV 114 ; FEATURE: Artificial
; NAME/KEY: Artificial
; LOCATION: 1-218
; OTHER INFORMATION: Light chain sequence derived from MAE11
; US-09-109-207C-15
; Query Match 100.0%; Score 596; DB 3; Length 218;
; Best Local Similarity 100.0%; Pred. No. 2. 4e-49; ;
; Mismatches 0; Indels 0; Gaps 0;
; Matches 114; Conservative 0; Mismatches 0;
; SEQ 1 DIQLTQSSSSLASAVGDRVTTCRASKPVDGEGDSYLNWYQOKPGKAKPLIYASYLES 60
; DO 1 DQLTQSSSSLASAVGDRVTTCRASKPVDGEGDSYLNWYQOKPGKAKPLIYASYLES 60
; QY 61 GVPNSRFSGSGSJDFTLTISLQPEDFATYCOQSHEPDYTFQGTRKEIKRTV 114
; DO 61 GVPNSRFSGSGSJDFTLTISLQPEDFATYCOQSHEPDYTFQGTRKEIKRTV 114
; Db 61 GVPNSRFSGSGSJDFTLTISLQPEDFATYCOQSHEPDYTFQGTRKEIKRTV 114
; ;
; RESULT 11
; US-09-109-207C-17
; ; Sequence 17, Application US/09109207C
; ; Patent No. 6172213
; ; GENERAL INFORMATION:
; ; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; ; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; ; NUMBER OF SEQUENCES: 26
; ; CORRESPONDENCE ADDRESS: Gententech, Inc.
; ; STREET: 1 DNA Way
; ; CITY: South San Francisco
; ; STATE: California
; ; COUNTRY: USA
; ; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Winatin (Gententech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/887,352B
; FILING DATE: 03-JUL-1997
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Srobona, Craig G.
; REGISTRATION NUMBER: 39,044
; REFERENCE/DOCKET NUMBER: P1123
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650/952-9881
; TELEFAX: 650/925-1489
; INFORMATION FOR SEQ ID NO: 24:
; SPOUSENAME CHARACTERISTICS:
; LENGTH: 218 amino acids
; TYPE: Amino Acid
; TOPOLOGY: Linear
; US-08 887-352B-24
; ;
; Query Match 100.0%; Score 596; DB 2; Length 218;
; Best Local Similarity 100.0%; Pred. No. 2. 4e-49;
; Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
; QY 1 DIQLTQSSSSLASAVGDRVTTCRASKPVDGEGDSYLNWYQOKPGKAKPLIYASYLES 60
; DO 1 DQLTQSSSSLASAVGDRVTTCRASKPVDGEGDSYLNWYQOKPGKAKPLIYASYLES 60
; QY 61 GVPNSRFSGSGSJDFTLTISLQPEDFATYCOQSHEPDYTFQGTRKEIKRTV 114
; DO 61 GVPNSRFSGSGSJDFTLTISLQPEDFATYCOQSHEPDYTFQGTRKEIKRTV 114
; Db 61 GVPNSRFSGSGSJDFTLTISLQPEDFATYCOQSHEPDYTFQGTRKEIKRTV 114
; ;
; RESULT 10
; US-09-109-207C-15
; ; Sequence 15, Application US/09109207C
; ; Patent No. 6172213
; ; GENERAL INFORMATION:
; ; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; ; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; ; FILE REFERENCE: P1123R1
; ; CURRENT APPLICATION NUMBER: US/09/109,207C
; ; CURRENT FILING DATE: 1998-06-30
; ; PRIOR APPLICATION NUMBER: US 60/051,554
; ; PRIOR FILING DATE: 1997-07-03
; ; NUMBER OF SEQ ID NOS: 44
; ; SEQ ID NO 15
; ; LENGTH: 218
; ; TYPE: PRT
; ; ORGANISM: Artificial
; ;
; RESULT 10
; US-09-109-207C-15
; ; Sequence 15, Application US/09109207C
; ; Patent No. 6172213
; ; GENERAL INFORMATION:
; ; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; ; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; ; FILE REFERENCE: P1123R1
; ; CURRENT APPLICATION NUMBER: US/09/109,207C
; ; CURRENT FILING DATE: 1998-06-30
; ; PRIOR APPLICATION NUMBER: US 60/051,554
; ; PRIOR FILING DATE: 1997-07-03
; ; NUMBER OF SEQ ID NOS: 44
; ; SEQ ID NO 15
; ; LENGTH: 218
; ; TYPE: PRT
; ; ORGANISM: Artificial
; ;
; RESULT 11
; US-09-109-207C-17
; ; Sequence 17, Application US/09109207C
; ; Patent No. 6172213
; ; GENERAL INFORMATION:
; ; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; ; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; ; NUMBER OF SEQUENCES: 26
; ; CORRESPONDENCE ADDRESS: Gententech, Inc.
; ; STREET: 1 DNA Way
; ; CITY: South San Francisco
; ; STATE: California
; ; COUNTRY: USA
; ; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Winatin (Gententech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/109,207C
; FILING DATE: 09-06-2000
; CLASSIFICATION: 530
; ATTORNEY/AGENT INFORMATION:
; NAME: Srobona, Craig G.
; REGISTRATION NUMBER: 39,044
; REFERENCE/DOCKET NUMBER: P1123
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650/952-9881
; TELEFAX: 650/925-1489
; INFORMATION FOR SEQ ID NO: 24:
; SPOUSENAME CHARACTERISTICS:
; LENGTH: 218 amino acids
; TYPE: Amino Acid
; TOPOLOGY: Linear
; US-08 887-352B-24
; ;
; Query Match 100.0%; Score 596; DB 3; Length 218;
; Best Local Similarity 100.0%; Pred. No. 2. 4e-49;
; Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
; QY 1 DQLTQSSSSLASAVGDRVTTCRASKPVDGEGDSYLNWYQOKPGKAKPLIYASYLES 60
; DO 1 DQLTQSSSSLASAVGDRVTTCRASKPVDGEGDSYLNWYQOKPGKAKPLIYASYLES 60
; QY 61 GVPNSRFSGSGSJDFTLTISLQPEDFATYCOQSHEPDYTFQGTRKEIKRTV 114
; DO 61 GVPNSRFSGSGSJDFTLTISLQPEDFATYCOQSHEPDYTFQGTRKEIKRTV 114
; Db 61 GVPNSRFSGSGSJDFTLTISLQPEDFATYCOQSHEPDYTFQGTRKEIKRTV 114
; ;
; RESULT 12
; US-09-109-207C-19
; ; Sequence 19, Application US/09109207C
; ; Patent No. 6172213
; ; GENERAL INFORMATION:
; ; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; ; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; ; FILE REFERENCE: P1123R1
; ; CURRENT APPLICATION NUMBER: US/09/109,207C
; ; CURRENT FILING DATE: 1998-06-30
; ; PRIOR APPLICATION NUMBER: US 60/051,554
; ; PRIOR FILING DATE: 1997-07-03
; ; NUMBER OF SEQ ID NOS: 44
; ; SEQ ID NO 19
; ; LENGTH: 218
; ; TYPE: PRT
; ; ORGANISM: Artificial
; ;
; RESULT 12
; US-09-109-207C-19
; ; Sequence 19, Application US/09109207C
; ; Patent No. 6172213
; ; GENERAL INFORMATION:
; ; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
; ; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
; ; FILE REFERENCE: P1123R1
; ; CURRENT APPLICATION NUMBER: US/09/109,207C
; ; CURRENT FILING DATE: 1998-06-30
; ; PRIOR APPLICATION NUMBER: US 60/051,554
; ; PRIOR FILING DATE: 1997-07-03
; ; NUMBER OF SEQ ID NOS: 44
; ; SEQ ID NO 19
; ; LENGTH: 218
; ; TYPE: PRT
; ; ORGANISM: Artificial
; ;

; OTHER INFORMATION: Light chain F(ab') sequence derived from MAE11
US-09-296-005-19

Query Match 100.0%; Score 596; DB 3; Length 218;
Best Local Similarity 100.0%; Pred. No. 2.4e-49;
Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 DQIQTQSSSLASVGDRVTICRASKAVDGESDYLWYQOKPGKAKPLIYASYLES 60
Db 1 DQIQTQSSSLASVGDRVTICRASKAVDGESDYLWYQOKPGKAKPLIYASYLES 60
QY 61 GVPISRFSGSGSGDFTLTISSLOPEDFATYYCQOSHEDPYTFCQGTRKEIKRTV 114
Db 61 GVPISRFSGSGSGDFTLTISSLOPEDFATYYCQOSHEDPYTFCQGTRKEIKRTV 114

RESULT 17

US-09-296-005-24

; Sequence 24, Application US/09296005
; Patent No. 620957

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PRIOR FILING DATE: 1999-04-21
 NUMBER OF SEQ ID NOS: 44
 SEQ ID NO 19
 LENGTH: 218
 TYPE: PRT
 ORGANISM: Artificial Sequence.
 FEATURE: OTHER INFORMATION: Light chain F(ab)' sequence derived from MAE11
 ; US-09-920-171-19

Query Match Best Local Similarity 100.0%; Score 596; DB 4; Length 218;
 Matches 114; Conservative 100.0%; Pred. No. 2.4e-49; Mismatches 0; Indels 0; Gaps 0;
 SEQ ID NO 1
 1 DIQIQTQSPSSISASVGDRVITCRASKPVGEGDSYLNWYQOKGKAPKULIYASYLES 60
 Db 1 DIQIQTQSPSSISASVGDRVITCRASKPVGEGDSYLNWYQOKGKAPKULIYASYLES 60

Query Match Best Local Similarity 100.0%; Score 596; DB 4; Length 218;
 Matches 114; Conservative 100.0%; Pred. No. 2.4e-49; Mismatches 0; Indels 0; Gaps 0;
 SEQ ID NO 2
 61 GVPSPRFSGSGSGTDFLTISLQPEDFATYCCQOSHEDPYTFCGQTKVKEIKRTV 114
 Db 61 GVPSPRFSGSGSGTDFLTISLQPEDFATYCCQOSHEDPYTFCGQTKVKEIKRTV 114

RESULT 21
 US-09-920-171-24
 ; Sequence 24, Application US/09920171
 ; GENERAL INFORMATION:
 ; APPLICANT: Lowman, Henry B.
 ; APPLICANT: Presta, Leonard G.
 ; APPLICANT: Jardieu, Paula M.
 ; APPLICANT: Lowe, John
 ; TITLE OF INVENTION: Improved Anti-IgE Antibodies (as amended)
 ; FILE REFERENCE: P1232US
 ; CURRENT APPLICATION NUMBER: US/09/920,171
 ; CURRENT FILING DATE: 2001-08-01
 ; PRIOR APPLICATION NUMBER: US 08/887,352
 ; PRIOR FILING DATE: 1997-07-02
 ; PRIOR APPLICATION NUMBER: US 09/296,005
 ; PRIOR FILING DATE: 1999-04-21
 ; NUMBER OF SEQ ID NOS: 44
 ; SEQ ID NO 24
 ; LENGTH: 218
 ; TYPE: PRT
 ; ORGANISM: Artificial Sequence
 ; FEATURE: OTHER INFORMATION: Light chain F(ab)' sequence derived from MAE11
 ; US-09-920-171-24

Query Match Best Local Similarity 100.0%; Score 596; DB 4; Length 218;
 Matches 114; Conservative 100.0%; Pred. No. 2.4e-49; Mismatches 0; Indels 0; Gaps 0;
 SEQ ID NO 3
 1 DIQIQTQSPSSISASVGDRVITCRASKPVGEGDSYLNWYQOKGKAPKULIYASYLES 60
 Db 1 DIQIQTQSPSSISASVGDRVITCRASKPVGEGDSYLNWYQOKGKAPKULIYASYLES 60

RESULT 22
 US-09-716-028-15
 ; Sequence 15, Application US/09716028
 ; GENERAL INFORMATION:
 ; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
 ; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
 ; FILE REFERENCE: P1123R1
 ; CURRENT APPLICATION NUMBER: US/09/716,028
 ; CURRENT FILING DATE: 2000-11-17
 ; PRIOR APPLICATION NUMBER: US 09/109,207

Query Match Best Local Similarity 100.0%; Score 596; DB 4; Length 218;
 Matches 114; Conservative 100.0%; Pred. No. 2.4e-49; Mismatches 0; Indels 0; Gaps 0;
 SEQ ID NO 4
 1 DIQIQTQSPSSISASVGDRVITCRASKPVGEGDSYLNWYQOKGKAPKULIYASYLES 60
 Db 1 DIQIQTQSPSSISASVGDRVITCRASKPVGEGDSYLNWYQOKGKAPKULIYASYLES 60

RESULT 23
 US-09-716-028-17
 ; Sequence 17, Application US/09716028
 ; GENERAL INFORMATION:
 ; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
 ; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
 ; FILE REFERENCE: P1123R1
 ; CURRENT APPLICATION NUMBER: US/09/716,028
 ; CURRENT FILING DATE: 2000-11-17
 ; PRIOR APPLICATION NUMBER: US 09/109,207
 ; PRIOR FILING DATE: 1998-06-30
 ; PRIOR APPLICATION NUMBER: US 60/051,554
 ; PRIOR FILING DATE: 1997-07-03
 ; NUMBER OF SEQ ID NOS: 44
 ; SEQ ID NO 17
 ; LENGTH: 218
 ; TYPE: PRT
 ; ORGANISM: Artificial
 ; FEATURE:
 ; NAME/KEY: Artificial
 ; LOCATION: 1-218
 ; OTHER INFORMATION: Light chain sequence derived from MAE11
 ; US-09-716-028-17

Query Match Best Local Similarity 100.0%; Score 596; DB 4; Length 218;
 Matches 114; Conservative 100.0%; Pred. No. 2.4e-49; Mismatches 0; Indels 0; Gaps 0;
 SEQ ID NO 5
 1 DIQIQTQSPSSISASVGDRVITCRASKPVGEGDSYLNWYQOKGKAPKULIYASYLES 60
 Db 1 DIQIQTQSPSSISASVGDRVITCRASKPVGEGDSYLNWYQOKGKAPKULIYASYLES 60

RESULT 24
 US-09-716-028-19
 ; Sequence 19, Application US/09716028
 ; GENERAL INFORMATION:
 ; APPLICANT: Henry B. Lowman, Leonard G. Presta, Paula M. Jardieu, John Lowe
 ; TITLE OF INVENTION: Improved Anti-IgE Antibodies and Method of Improving Polypeptides
 ; FILE REFERENCE: P1123R1

Db 61 GVPSSRFSGSGTDPFTLTISSLOPEDFATYYCOOSHEDPYTFOGKTVIKRTV 114

RESULT 28

US-10-113-996-19

; Sequence 19, Application US/10113996

; Patent No. 6761889

; GENERAL INFORMATION:

; APPLICANT: Lowman, Henry B.

; APPLICANT: Presta, Leonard G.

; APPLICANT: Jardieu, Paula M.

; APPLICANT: Lowe, John

; TITLE OF INVENTION: Improved Anti-IgB Antibodies

; FILE REFERENCE: P1123C3US

; CURRENT APPLICATION NUMBER: US/10/113,996

; CURRENT FILING DATE: 2002-04-01

; PRIOR APPLICATION NUMBER: US 08/887,352

; PRIOR FILING DATE: 1997-07-02

; PRIOR APPLICATION NUMBER: US 09/296,005

; PRIOR FILING DATE: 1999-04-21

; PRIOR APPLICATION NUMBER: US 09/920,171

; PRIOR FILING DATE: 2001-08-01

; NUMBER OF SEQ ID NOS: 44

; SEQ ID NO 19

; LENGTH: 218

; TYPE: PRT

; ORGANISM: Artificial Sequence

; FEATURE:

; OTHER INFORMATION: Light chain F(ab) sequence derived from MAE11

US-10-113-996-19

Query Match 100.0%; Score 596; DB 4; Length 218;

Best Local Similarity 100.0%; Pred. No. 2; e-49; Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Matches 114; Conservatve 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DIQIQTQSSSLASAVGDRVTITCRASKPVDGEGDSYIWWYQOEGKAKPLKLYAASYES 60

Db 1 DIQIQTQSSSLASAVGDRVTITCRASKPVDGEGDSYIWWYQOEGKAKPLKLYAASYES 60

Qy 61 GVPSSRFSGSGTDPFTLTISSLOPEDFATYYCOOSHEDPYTFOGKTVIKRTV 114

Db 61 GVPSSRFSGSGTDPFTLTISSLOPEDFATYYCOOSHEDPYTFOGKTVIKRTV 114

RESULT 29

US-10-113-996-24

; Sequence 24, Application US/10113996

; Patent No. 6761889

; GENERAL INFORMATION:

; APPLICANT: Lowman, Henry B.

; APPLICANT: Presta, Leonard G.

; APPLICANT: Jardieu, Paula M.

; APPLICANT: Lowe, John

; TITLE OF INVENTION: Improved Anti-IgB Antibodies

; FILE REFERENCE: P1123C3US

; CURRENT APPLICATION NUMBER: US/10/113,996

; CURRENT FILING DATE: 2002-04-01

; PRIOR APPLICATION NUMBER: US 08/887,352

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; PRIOR APPLICATION NUMBER: US 09/296,005

; PRIOR FILING DATE: 1999-04-21

; PRIOR APPLICATION NUMBER: US 09/920,171

; PRIOR FILING DATE: 2001-08-01

; NUMBER OF SEQ ID NOS: 44

; SEQ ID NO 24

; LENGTH: 218

; TYPE: PRT

; ORGANISM: Artificial Sequence

; FEATURE:

; OTHER INFORMATION: Light chain F(ab) sequence derived from MAE11

US-10-113-996-24

Query Match 100.0%; Score 596; DB 4; Length 218;

Best Local Similarity 100.0%; Pred. No. 2; e-49; Matches 114; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Matches 114; Conservatve 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 DIQIQTQSSSLASAVGDRVTITCRASKPVDGEGDSYIWWYQOEGKAKPLKLYAASYES 60

Db 1 DIQIQTQSSSLASAVGDRVTITCRASKPVDGEGDSYIWWYQOEGKAKPLKLYAASYES 60

Qy 61 GVPSSRFSGSGTDPFTLTISSLOPEDFATYYCOOSHEDPYTFOGKTVIKRTV 114

Db 61 GVPSSRFSGSGTDPFTLTISSLOPEDFATYYCOOSHEDPYTFOGKTVIKRTV 114

Search completed: June 3, 2005, 12:42:57

Job time : 23 secs

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